A Lecture

ON THE

AIMS AND METHODS OF A POST-GRADUATE COURSE OF LECTURES.

BY

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GENTLEMEN,—We are met together this evening, I may assert, for no slight or trivial purpose, and the only regret which I feel is that the exposition of that purpose has not fallen into more able hands than my own. I have been invited, however, by my colleagues in an attempt to organise a post-graduate course of medical instruction in London, to explain our aims and purposes; and, taking as I do a keen interest in the movement, I have felt that I could not decline their request. In thanking you for responding in such numbers to our invitation, and thus showing your interest also in the scheme, let me say at once that we are met for no lower objects than to attempt to express in deeds our faith in medical science and our desire that the British profession shall not only keep well up with the times but shall maintain its foremost place. Our meeting also, apart from these objects, serves, if I mistake not, to pay a not undeserved compliment to the human mind itself in asserting its zeal for knowledge quite apart from all compulsion to its attainment. We avow our belief that amongst English-speaking medical men there are many who are willing and eager to work for the further development of their professional skill after they have obtained all they seek in the form of diplomas and legal qualifications to practise. It is to the whole of this latter class that the term "post-graduate" applies, and it is to provide for their requirements that our organisation has been formed. We are not, so far as I can see, in the least degree in competition with existing medical schools. We purpose to supplement and not to rival them, but to provide for wants which they have never professed to supply, and which have indeed been hitherto but very feebly recognised. In saying that we believe that there are many post-graduates who are eager to be taught I have by no means said all. We believe further that there is in this metropolis (and not only here) an overwhelming supply of clinical material which now for the most part runs to waste, and which might easily be utilised for their benefit. We go still further than this, and we hold also that there is amongst us a large amount of professorial and teaching ability not unwilling to find scope for its exertion which is now allowed to rust unused simply because it has no opportunities for employment. In making these latter assertions, I am thinking of our smaller hospitals which have no schools attached to them, of our numerous special hospitals, of our large workhouse infirmaries, sick asylums, and other institutions which might, under suitable conditions, be utilised for teaching. I am thinking also of the large class of highly skilled specialists and others who have never had the good fortune to become attached to general hospitals, and also those—a yearly increasing number—who, under modern rules of retirement from hospital duties, have lost their teaching opportunities whilst, it may be, almost in the prime of life. That men like Sir Andrew Clark and Mr. Thomas Bryant, if I may be pardoned for mentioning names, should, whilst in full energy, be compelled to forego almost wholly occupation in the vocation of teacher is a grave professional loss. On the other hand, that all such as they are should be transferred from the position of teachers of students to that of professors whose classes should be composed of graduates would be in every way appropriate and right. I do not think—our movement is not a novelty—that you would thank me for entering into any details as to what has been done or attempted in the way of post-graduate teaching in other places. As you well know, classes for this object have been organised long ago in Vienna, Berlin, and Paris, and in several cities of the United States, notably New York. At Leeds, in some other of our English cities, and even in London itself, successful efforts in the same direction have already been made. So far, therefore, from ours being a novel movement, it is one in which I think we must admit that this metropolis is perhaps somewhat behindhand, for in none of the classes hitherto organised in London has the design, so far as I know, been to arrange for the wants of others than practitioners resident in the neighbourhood of the hospitals.

Now, the scheme which I have to explain this evening is one of a wider scope. It aims at providing for the wants, not solely or even chiefly of those who are permanent residents in or near London, but of those who come here for educational purposes. We believe that there is a large number of qualified medical men living in London, some of them from abroad, but many our own students, who would gladly avail themselves of facilities for further clinical study. We believe, further, that were such facilities afforded this number would greatly increase. It is part of our creed—indeed, it is, I believe, now generally recognised—that the instruction of students and of men who have passed their examinations cannot suitably or conveniently be conducted in the same institution. There is a natural unwillingness on the part of graduates to mix on equal terms with those who as yet have not attained that dignity, and the kind of instruction suited to the one is not adapted to the other. The lecturer who attempts to meet the wants of those who are well advanced must but too often pass over the heads of the younger students. The interests of the latter will almost inevitably be sacrificed if the attempt be made to instruct both together. We deprecate, then, the attempt to introduce post-graduate instruction into our general hospitals possessing medical schools.

Our present organisation consists of an association of the following special hospitals: the Hospital for Consumption and Diseases of the Chest, Brompton; the Hospital for Sick Children, Great Ormond-street, Bloomsbury; the National Hospital for the Paralysed and the Epileptic, Queen-square, Bloomsbury; the Royal London Ophthalmic Hospital, Moorfields; and the Hospital for Diseases of the Skin, Blackfriars. In each of the hospitals named the staff and managing committee have agreed to admit those who enter to the post-graduate course to receive instruction in their walls. The precise character of this instruction is to some extent left to the option of the hospital concerned, but it is understood that it must in all cases comprise a certain number of lectures, and that it is to be as truly clinical as may be found practicable. I am sorry to be obliged to state that our admission tickets will not in all cases include free access to the ordinary work of the hospital. More liberal arrangements in this matter will, I trust, be found possible when we have gained experience as to the number likely to attend our classes. It will be seen that our list of hospitals comprises most of our large special institutions, and that amongst our lecturers are some of the best teachers in London. Although I think that our scheme may do for a beginning, I will not for a moment profess that I am satisfied with it, nor do I believe that any of my colleagues are so any more than myself. For reasons which have just been hinted at, and they are for the present good ones, we have no general hospital on our list, we have no central home, we afford no facilities for advanced instruction in such subjects as anatomy, operative surgery, physiology, and pathology. I mention these almost at random, but really there is scarcely a topic in the curriculum of the student which ought not to find its further development in any scheme which adequately provides for the needs of the post-graduate. We assume that there are many who wish to advance beyond the modicum of knowledge which has enabled them to obtain a diploma, and that the desires and aims of such will not be restricted to special branches. Then, too, we expect that there will be a class who desire not so much to advance as to recapitulate, who, after having been in practice for some years, wish to return again to studies to refresh their memories. For these access to a dissecting-room, a pathological laboratory, and the wards of a general hospital well supplied with good clinical cases is essential. Nor will the arrangements for a post-graduate course be complete unless they are provided. That a hospital will be found before long willing to forego the admission of students altogether and adapt itself to the wants of post-graduates is, I think, a not unreason-

able hope. Such a hospital should, in addition to its ordinary working staff, endeavour to secure the help as occasional clinical teachers of all the best men of the day. The admission to the use of its lecture-theatres and also of its wards (for rare, interesting, and typical cases) ought to be on the most liberal basis. I can imagine such an institution developed into one of a purely clinical and illustrative character, containing material far more valuable for the purposes in view than much of that which now throngs the wards of our general hospitals. At the same time I can imagine the organisation at such an institution of a class of professors who should teach the most varied subjects of advanced medical education in a manner far better suited to the wants of post-graduates than is at present to be obtained. A hospital and school having this scope and these ends would confer an immense boon upon medical education, and through it upon the English-speaking races in all lands. I must return, however, from this dream of the future, as yet not even on its way to realisation, to the facts at present before us. I cannot, however, forego the satisfaction of telling you that what is a dream as regards ourselves is already a reality across the Atlantic. The prospectus of the New York Polyclinic for the present session informs us that that institution "is a school of clinical medicine and surgery for practitioners," that it was organised in 1880–81, and opened in 1882, being the first school exclusively for post-graduates in America. It has a hospital of sixteen wards and fifteen private rooms, and has a large dispensary in the same building. Almost all the hospitals, asylums, and dispensaries in New York are in association with it, and its teachers, under the names of professors, instructors, and clinical assistants, constitute a very large staff (some seventy or eighty different men), who, in their personal connexions with the city hospitals and dispensaries, control a vast clinical material." This institution has had seven sessions, and it is encouraging to know that its numbers have steadily advanced from 161 in 1882 to 383 in 1889. I observe that its report repeatedly speaks of its classes as being composed of physicians, and from the arrangements mentioned in reference to providing for residence, it is evident that most of them are strangers to New York who have come to reside there for the sake of the instruction the classes there afforded.

I will proceed now to suggest and to answer one or two possible objections to our scheme. The first and most obvious is that, since a post-graduate hospital would lack the legal compulsion which the need for diploma certificates imposes upon the students who attend our existing medical schools, the entries to its courses would not suffice to pay expenses. I said in the beginning that we are met here to pay a deserved compliment to human nature. We avow our faith in the force which the love of knowledge affords when it is assisted by a conscientious desire to discharge faithfully the social duties which have fallen to our lot. We believe that these motives will be sufficient, and to them in the main we trust. Not, however, that they are not supplemented by lower ones. A certain proportion of our classes may probably be supplied by those who, having completed their curriculum elsewhere, and having already obtained a qualifying diploma, are desirous to go on to higher degrees, and for that purpose need further certificates. The public services will probably furnish a considerable contingent of men who have been so stationed that a certain amount of what we may call "rusting" in professional matters was to them unavoidable. Foreigners seeking acquaintance with English practice may also be expected to find in our arrangements facilities much in advance of any that London has hitherto afforded. I do not think that I am far wrong in admitting that London has as yet made but little attempt to meet the wants of this class, and that as a consequence we have not attracted its members in anything like the proportion which Paris, Berlin, and Vienna have done, and which the richness of our clinical material and the reputation of our physicians and surgeons ntitle us to desire and expect. But after mentioning these sources of probable supply, I must return to my statement that we rely chiefly upon the desire for further instruction and experience on the part of the British family practitioner. The great poet whom we have recently mourned has well said:

> "'Tis the taught already that profits by teaching."

And he might have added that it is not infrequently the taught already who feels most keenly his own need of further teaching.

So rapid is the progress of medical knowledge in the present day, and so sweeping are the changes and simplifications which come over us that it will soon be recognised that to have gone to school once in a lifetime is far from being sufficient, and that periodic returns to the lecture theatre are a necessity to the man who would keep abreast with his juniors. Here, too, again, lower motives will have their force—motives of a kind which I may best indicate by relating to you a reply made to me by a practitioner from the United States many years ago. I knew that this gentleman had left a large practice in Chicago in order to spend six months in study abroad, and I asked him if he did not fear that whilst so long away from home his rivals would get a great number of his patients. "That may probably be so," he replied, "but I reckon when I get back fresh with the new knowledge of Europe I shall get a few of theirs." Another anecdote I may perhaps venture to give if you will pardon it, tending in the same direction, but coming from the patient's view of the matter. Not many months ago I expressed to a gentleman who had several times come from a large continental city to London for advice my surprise that he did not content himself with the assistance which he could easily obtain at home. I assured him that there were excellent surgeons in his native city. "That may be," he replied, "but there is a great difference between you in London and us. You go on working all your lives and getting to know more and more, but with us when a man has got his diploma he thinks that that is enough and spends his leisure at the café." Let me hasten to say that I do not doubt in the least that my patient's opinion was to a large extent a mistake, but at the same his creed and his action upon it may probably well exemplify that of many others. If his facts were right, his conduct was reasonable. It is quite true that the splendid medical literature of the day—I am thinking especially of our weekly journals—accomplishes marvels in the way of furnishing to practitioners, wherever situated, a full and vivid picture of all that passes in our great medical centres. Yet great as are the advantages in this direction enjoyed by all, there remains much which can only be learned in the hospital clinique; and I am much mistaken if the day be not rapidly coming when practitioners will find it not only a pleasure, but almost a necessity, to resort again and again to the opportunities there afforded. I have said there is nothing new in this proposal. During many generations past there have been those who zealously sought, by a return to a place of education, to refresh their memories and to extend their knowledge of an illimitable and ever-advancing science. Everyone knows the story of the two young Scotch doctors who went into a partnership in practice, with the understanding that each should at stated intervals liberate the other to return to the schools, and how one of them ultimately achieved fame in London as Dr. William Hunter, and the other in Edinburgh as Dr. Cullen. Although, however, the need for occasional return to the school has long been acknowledged, and most clearly by the best men, yet it is only of late years that it has become practicable. The facilities for rapid and cheap travelling of the present day make achievements in this direction easy which formerly could not be thought of.

It would be an easy and a pleasant task to enlarge upon the advances made during recent years in all the multifarious branches of professional knowledge, and to show how vastly the sum of the knowledge the practitioner has to acquire and remember has been increased. But this is too obvious, and I shall not detain you by any attempt to enforce what all already know full well. It is recorded of Hippocrates that he made a vow not to engage in practice until he had mastered all the knowledge of his predecessors. Were anyone to make such a vow now he would simply preclude himself from ever beginning at all. In this immense multiplication of knowledge, it becomes a duty to try by all possible methods to improve and advance the means of education.

The terms of the invitation by which we have been brought together this evening are, I observe, to listen to a lecture on the Aims and Methods of the Post-graduate Course, and it is right that I should now, in conclusion, ask myself whether I have kept to the text. It occurs to me that I have perhaps spoken too much of what the methods of post-graduate teaching ought to be and too little as to the precise character of the arrangements which we have been able to make. This has to a large extent been unavoidable,

for of those of us who are engaged in this undertaking I am sure I may again say that there is not one who is not well aware that the course of lectures which is to commence next week represents very imperfectly indeed what we should like to supply. As I have already said, we trust that our scheme will develop into something better. We have, however, done our best under present conditions. Unable as yet to obtain any large general hospital, we have associated five of the leading special institutions and have fixed the dates for the delivery at them of seventy-two lectures during a period of two months. The character of the lectures and all details as to how far they may partake of the nature of clinical demonstrations are left to the lecturer himself and to the staff of the hospital concerned. Each hospital is responsible for its own arrangements. You will find all details given in a little prospectus which has been prepared by our excellent secretary, Dr. Fletcher Little. Our list of lecturers comprises the names of—I take them just in the order in which they occur in the prospectus—Dr. Theodore Williams, Mr. Lang, Dr. Howard Tooth, Dr. Sturges, Dr. Payne, Mr. Gunn, Mr. Owen, Mr. Quarry Silcock, Dr. Beevor, Dr. Barlow, Dr. Kingston Fowler, Dr. Ormerod, Mr. John Morgan, Dr. Buzzard, Dr. Abercrombie, Dr. Green, Mr. Victor Horsley, Mr. Bernard Pitts, Dr. Roberts, Dr. Bastian, Dr. Angel Money, Dr. Percy Kidd, Mr. Brudenell Carter, Dr. Hadden, and Dr. Gowers.

That the list is a good one I venture to assert without fear of contradiction; that it is a very imperfect one I freely admit. You will see that our selection has been restricted to the staff members of the five hospitals which I have named, and of a necessity many of those whom we might have expected to be foremost in such a movement as this are not in it. We have as yet no central institution, no neutral ground, no place to which we can invite a lecturer, without any regard to the hospital to which he may chance to belong, and find for him a theatre and a class. Although, however, it may perhaps seem that we are for the present somewhat exclusive, I assure you that this is only from necessity. Our designs are comprehensive, our aims catholic. We hope in the end to secure as post graduate teachers all who have zeal and ability to teach post-graduates. As yet we are in a sense homeless. In what exact way our want of a home may eventually be supplied we cannot at present foresee. It may be that some one of our general hospitals, with its museum, dissecting-rooms, &c., all ready to hand, may determine to forego the education of students and take us in, or it may possibly be that we shall arrange with one of those hospitals which at present has no school attached to organise itself for our purposes. In the meantime, we must do the best we can, and it is matter for congratulation that, apart from our movement, there are in London now in progress developments in several directions which will tend to give this city increased attractions to the post-graduate class. Our Medical and Chirurgical Society has much increased its accommodation both for readers and public meetings; the British Medical Association has opened a valuable library and reading-room; the College of Surgeons has enlarged its library and opened it to evening readers, and, still more, it is about to nearly double the accommodation of its noble museum and to add to it a gallery of clinical illustrations of disease as seen in the living patient. Lastly, the united Colleges of Physicians and Surgeons have nearly completed a splendid building, with theatres and work-rooms, which is to be devoted to the encouragement of research, and very possibly to some objects not wholly out of the sphere of those which we aim at. Thus I think we may thankfully believe that the present is a period of considerable professional activity in London, and that the omens are favourable for the launching of such a scheme as that which I have been requested to recommend to you to-night. Its aims are the more perfect development of medical knowledge throughout the British empire, its methods the further utilisation of the medical institutions of this great metropolis.

There is one topic which, in concluding, I should be very sorry to omit. It is the consideration that our post-graduate teaching will by no means be restricted in its benefits to those who listen. "Teaching, we learn; giving, we receive." I may speak on this subject as one having some experience. Many are the hints I have received from intelligent students, and never have I sat down to the preparation of a lecture without finding that my own views gained much in clearness as I proceeded. Now, if this be the result of engaging in the instruction of students, it follows that the gain will be far greater when we have to prepare for the tuition of educated men. Should that which I have ventured to hint at ever be realised, should we ever possess in London a clinical hospital in which cases suited for the instruction of practitioners should be collected for that especial purpose and lecturers enlisted from all quarters to address themselves to well-trained auditors, I venture to foretell that the gain will not be alone to medical education, but will be real and substantial to medical science itself.

Remarks
ON THE
CLINICAL ASPECTS OF MOVABLE KIDNEY.

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(*Concluded from page 68.*)

CASE 21.—Mrs. W——, aged thirty-one, mother of six children, stated that for three years, two months after confinement, she felt pain in the left side (lumbar and iliac regions). This was usually brought on by exertion and was relieved by rest. Soon after she detected blood in the urine; this disappeared shortly, but returned again three months later, when it was accompanied by pain shooting into the left groin. She got over another confinement twelve months later without any difficulty, and was again confined in July, 1888, after which the pain returned in the left side as before. Then she detected a "lump" in her side. She has since suffered from the pain in the left side on going about. Pressure over the part occupied by the "lump" was unbearable. She had not seen any blood in the urine for over two years. On lying down she was able to demonstrate the tumour, which occupied a position just inside the anterior superior spine of the crest of the ilium. This was obviously the kidney, but was fixed so that it could not be replaced in its normal position. The urine at the time of examination was free from albumen or blood.

CASE 22.—Mrs. W——, aged forty-five, mother of two children, was admitted into the Royal Infirmary for Bright's disease. She stated that she had suffered from pain of a dragging character in the right lumbar region for several weeks, and of late had noticed that her urine contained a considerable quantity of blood. She vomited frequently. There was no dropsy. The urine was passed in considerable quantities, and contained blood, with albumen and casts. She was a stout woman, and her abdomen was with difficulty palpated. The right kidney could be readily grasped and made to assume various novel positions. It felt very large and seemed to be distinctly globular in shape. A few days after her admission into the hospital symptoms of uræmia developed, and she sank rapidly. The post-mortem conditions will be referred to again.

CASE 23.—Mrs. P——, aged forty, a stout and florid-looking woman, mother of three children, the oldest being fourteen, at whose birth albumen was detected in the urine. This disappeared, to return again during the second pregnancy. After this she recovered health fairly well, though from time to time she complained of indefinite abdominal pains, sometimes in the left side and sometimes in the right, in the neighbourhood of the hypochondrium. She also suffered a good deal from backache, and was generally worse at her menstrual periods and after exertion. Her third pregnancy occurred in 1887, and since then albuminuria had been almost constant. When she came under observation she was complaining chiefly of pains of an aching character in the right lumbar region, though often the left side was also affected. The urine contained about one-sixth albumen and a few granular casts. The right kidney was movable. From time to time she experienced attacks of diarrhœa, with mucus in the stools.

CASE 24.—B——, aged thirty, single, a nurse, complained of a sense of swelling, or fulness, in the right lumbar region above the cæcum, and of a dragging, aching pain in the left hypochondrium and neighbourhood of the left scapula. She was more or less familiar with these symptoms for upwards of seven years, but suffered at times from

aggravated attacks, which were usually attended by dyspepsia—shown by flatulent distension, inconvenience after food, constipation (with mucus in the stools on taking aperient medicine), &c. Her pains and aches invariably disappeared on lying down. She was markedly neurotic, though her mistress did not think she was wont to complain unnecessarily. Both kidneys were movable, more particularly the right; but the left was more tender on pressure.

CASE 25.—Miss ——, aged ten, usually a healthy girl, complained for some months of a pain in her right lumbar region, with occasional twinges passing down in the direction of the ureter. She gradually lost flesh, and her general health suffered. It was observed then that the urine contained blood, and for this she was taken to a medical man, who recognised that the right kidney was exceedingly movable. When she came under my notice she was pale and looked ill, due probably to the loss of blood, for the hæmaturia had been constant for some days. Her pains were described as "aching and dragging," and were noticeably increased by exertion. The right kidney could be easily grasped, and, indeed, was freely movable. The urine contained blood and a small quantity of albumen, but no casts.

CASE 26.—Mrs. J——, aged twenty-nine, mother of three children, a typical neurotic, for many years was the victim of "nervous" pains in various parts of her body, chiefly cephalic (with noises in the ears) and pelvic. There were no special pains referable to the kidney region. The right kidney could be palpated readily.

CASE 27.—Margaret A——, aged thirty, a domestic servant, unmarried, has complained for upwards of eighteen months of pain in the stomach region after food, with palpitation, headache, and a more or less constant aching pain in one or both hypochondriac regions during and after exertion. The right kidney lay quite below the arch of the ribs, and was freely movable; the left could not be felt. No faint-producing or sickening sensation on pressure. No mucus in the stools.

CASE 28.—Mrs. S——, aged forty-one, mother of one child aged eleven, was in good health until three years ago, when she complained of pain which travelled from the right kidney down to the pelvis. This was aggravated on standing or walking, and correspondingly relieved on lying down. The hand pressed into the abdomen to the right of the umbilicus also afforded her relief. For some years she had suffered much from attacks of migraine, which were accompanied by vomiting and often by severe retching and straining. At the commencement she was treated by her medical attendant for uterine displacement, and pessaries were inserted. She was a martyr to dyspepsia, and had often noticed mucus in the stools. Her bowels were commonly constipated. Her right kidney was very freely movable, and was tender on pressure.

CASE 29.—Margaret C——, aged forty-three, married, mother of six children. Eight years ago, after an attack of dyspepsia with severe vomiting, she accidentally discovered a tumour in her abdomen on the right side. From this time she complained of anomalous pains in the epigastrium, right hypochondrium, and between the shoulders. She has, in addition, suffered very frequently from dyspepsia, and has lost flesh considerably. She was a spare woman, and her skin was markedly pigmented. Her pains were of a dragging character, and often passed from the right kidney region downwards into the pelvis. Exertion invariably aggravated them, so much so that her capacity for active work was much reduced. The right kidney was freely movable, and could generally be discovered a little to the right of the umbilicus, though it disappeared at the end of expiration when the patient lay on her back. No sickening sensation was complained of on pressure.

CASE 30.—Margaret K——, aged sixty, married, mother of four children. After her fourth confinement, when twenty-eight years of age, she felt pains in the right side of the abdomen. Three years later she discovered a "lump" below the ribs at the right side. Prior to this her health had commenced to fail, and she observed that she was losing flesh. From the discovery of the tumour up to the present time she has seldom been free from dyspeptic symptoms and pains on the right side. The latter were always aggravated by stooping, lifting heavy weights, or otherwise exerting herself. At the age of fifty-four she discovered a similar tumour on the left side, and about the same time observed that the pains affected this side also. Both kidneys could easily be grasped and made to assume various positions considerably removed from their normal situation.

CASE 31.—Mr. F——, aged fifty-six, seen with Dr. Hunter of Sunderland. Patient stated that for two or three months he had complained of pain in the left lumbar region, and in the lower part of the left hypochondrium. His pain was twofold, sometimes shooting from the spine, and sometimes aching in the side. It was felt down both sides and in the hip-joints occasionally, and would sometimes pass into the left testicle. The attacks of pain occurred in paroxysms, which were usually induced on exertion. A few weeks after the commencement of his symptoms he discovered a tumour in his left side, which has remained unaltered up to the present. He stated that sixteen months previously he had a severe fall, and to this he was inclined to ascribe his illness. On examination the lower dorsal and upper lumbar spines were found to be tender, but no curvature was detected. A well-marked tumour, resembling the kidney, could be felt in the front of the left lumbar region; the lower end was on a level with the anterior superior spine of the crest of the ilium. This tumour moved on inspiration, but could not be pressed back into the kidney region. Two months later the patient was again seen, when it was discovered that the tenth dorsal spine was prominent, and that pus was pointing beside the spine in this region. The diagnosis was caries of the vertebra, and displaced kidney was then arrived at. The introduction of the hypodermic needle into the latter failed to discover pus. Great difficulty was experienced in distinguishing between the pains that were due to the spinal condition and those that arose from kidney ectopia. The urine was normal.

In all the cases, with the exception of two, symptoms more or less directly referable to the kidneys were present. The most characteristic symptom was pain, variously described as aching, dragging, and burning, and usually this was aggravated by exertion and relieved by rest. In all but one (Case 9) the pain was complained of on the side on which there was the greatest degree of renal mobility. The hypochondrium was the region most frequently affected, though the pain was often described as travelling back into the posterior lumbar region, and again, up to the shoulder-blade or down towards the ovary. Not unfrequently it passed across the lower part of the epigastric region from side to side. Dyspeptic symptoms were prominent in nineteen cases, and it is to be remarked that the group of symptoms of this description in the various cases resembled one another somewhat closely; as a rule there was apparent a sense of local or general abdominal tenderness, with more or less gaseous distension, pain, constipation, and loss of appetite. The pain and general dyspeptic discomfort were at their height usually from one to three or four hours after food. In ten out of the nineteen cases in which there was dyspepsia, mucus was observed from time to time in the stools. This was occasionally very noticeable, and formed a striking feature of some of the cases. I am inclined to think that this form of enteric catarrh will be found on careful inquiry to be a much more frequent accompaniment of movable kidney than is generally supposed, and to it (gastro-enteric catarrh) may, I believe, be ascribed the dyspeptic symptoms of the malady. The bowels were usually constipated, as is apt to be the case in the nervous form of intestinal mucous catarrh, and the evacuations were often light coloured, and were largely made up of undigested food, with flaky mucus. With the foregoing symptoms, emaciation, general debility, and a tendency to hypochondriasis and depression were observed in a good many instances. Twenty-two out of the thirty-one patients referred to were exceedingly nervous, and might very properly be described as decided neurotics; and it is noteworthy that with rare exceptions these were the cases in which dyspeptic symptoms were most marked. Fifteen gave the history of a highly nervous temperament from earliest recollection; whilst in seven the origin of the neurotic state was supposed to be contemporaneous with the development of the symptoms belonging to the kidney displacement. Six could scarcely be classified as neurotics, and in the case of three no information on the point was obtained. So often is a marked nervous habit to be met with in cases of movable kidney with symptoms that I have been led to ask myself the question, would the symptoms arise were it not for the neurotic tendency, even with a

pronounced degree of ectopia? It must, I think, be admitted that in the great majority of the cases they would not. But that the kidney condition determines the region and distribution of the disturbance there can be no doubt, and, further, it would seem that in some cases at least it is the cause of the neurotic temperament. A large proportion of the cases suffered from migraine. In three cases hæmaturia was observed, and in three others albuminuria. One patient was the subject of confirmed kidney disease, which on post-mortem examination proved to be tubal nephritis—the large mottled variety (Case 22). In another instance Bright's disease was more than suspected. In none of my cases could I satisfy myself that occlusion (by twisting) of the ureter or renal artery occurred, accidents that have been described by writers as giving rise to temporary diminution of urine, and at times suppression, with pain, which in the case of the former would be attended by enlargement of the tumour (hydronephrosis), but not in the case of the latter. The possibility of such accidents ought not to be forgotten, though I am inclined to think that they are rarer than some have supposed. I have met with marked exacerbations of pain with diminished flow of concentrated urine, but I have not felt justified in ascribing the attacks to torsion of the artery, and in no instance was it attended by temporary enlargement of the movable organ.

A word on the method of examining a patient for floating kidney. The plan usually adopted—viz, of palpating the hypochondriac and lumbar regions by simply pressing the hand down towards the kidney region—will often fail to detect a mobility of considerable degree. It is well to stand on the right side of the patient, who should be examined lying on the back with the abdominal walls as much relaxed as possible. The right side can then be explored by gently but firmly pressing the left hand behind the quadratus lumborum, beneath the twelfth rib, whilst the right hand is laid on the side and front of the abdomen beneath the arch of the ribs. The patient is then directed to draw a long breath quietly, and then at once to expire without using any force. Towards the end of the inspiration the right hand is pressed down towards the left, gently at first, but firmly when expiration commences The result of this manœuvre is that the kidney, which has been brought down with a sweep by the diaphragm, can readily be caught between the hands and retained for a few moments. Or should the displacement of the organ be but slight, its lower end can be felt by the right hand at the moment when the abdominal muscles are relaxed at the beginning of expiration. Of course, in exaggerated cases there is no necessity to practise the plan I have described. But in stout people, or in less striking examples, it will be found of great use in searching for the condition. The left kidney may also be explored from the right side of the patient.

Of the thirty-one patients whose cases have been referred to, twenty-five were women, four men, and two children, both girls. Of the women, twenty had been married, and of these sixteen had borne children.

In inquiring the age at which cases of movable kidney are most common, we have to consider the time of life that favours the incidence and operation of the several causes, as well as that at which the *neurotic habit*, so indissolubly connected with the most striking symptoms of the condition, is most frequently met. For it cannot be denied that up to the present the displacement, in ordinary cases, has in great measure escaped the notice of morbid anatomists, and that statistics based on post-mortem-room observation can only be misleading. It is, therefore, well to confine our attention to the cases in which the presence of symptoms, more or less definite, has led to the discovery. Personally, I have repeatedly demonstrated the mobility of the organ in the post-mortem room, but I am unable to state even approximately how often it occurs, though in future I intend to note the fact, and hope to aid in the elucidation of the question. This much I will say, that in almost every instance in which the kidney has been found to be freely movable, the other abdominal organs have been correspondingly loose in their attachments—the spleen, liver, cæcum, stomach, &c. More than once a distinct meso-nephron was present, but much more often the peritoneal covering was simply loose, so that the organ could be easily placed in various novel positions. Indeed, at times it had dragged the relaxed peritoneum so far from the abdominal wall as to bring into close conjunction the upper and lower layers, so as to form a false meso-nephron (Case 22). The dilatation of the stomach described by Müller Warnek has not come under my observation, nor have I been able to satisfy myself that pressure can be exercised to such a degree by the movable organ upon the duodenum as to lead, as was supposed by Bartels, to obstruction of the passage of food from the stomach.

It would appear to me that in the great majority of cases of movable kidney a more or less relaxed condition of peritoneal attachment is congenital, but that certain causes are at work that determine the actual condition as a pathological entity there can be no doubt. Great stress has been laid by writers upon repeated pregnancies. In other cases emaciation, with local disappearance of adipose tissue surrounding the kidney, has been assumed to favour it. Again, it has been ascribed to accidents, such as severe falls and so forth. In at least fifteen of my cases pregnancy must be discarded as a cause, for nine women had never borne children, and these, with four men and two children, make up nearly half the total number. Of the sixteen mothers, nine had three or less than that number of children, whilst only five could be said to have had large families. Turning, then, to the question of loss of flesh, in eleven cases decided emaciation was observed; in seventeen, it was by no means apparent, indeed, in the majority it was denied; whilst in three the fact was not ascertained. It is, of course, conceivable that a marked loss of the fat surrounding the kidney would tend to deprive it of a considerable amount of support. But the fact must not be lost sight of that in a good many cases the emaciation has succeeded, and has apparently been consequent on, the kidney displacement, and that in a large percentage of cases the right kidney was affected when the left was not. In my own series both kidneys were discovered to be movable in fifteen instances, the right alone in fourteen, and the left alone in two

In considering the pathology of movable kidney, I do not think sufficient importance has been attached by writers to the effect of the descending diaphragm during forced inspiration. I believe that in the great majority of cases the loosening of the kidney attachments, already more or less lax congenitally, is the result of pressure exerted on the organ by that great inspiratory muscle. In this connexion it is worthy of note that the condition was traced in four of my cases to violent efforts in vomiting, and in one to severe asthmatic attacks.

The treatment of the symptoms of floating kidney is in a great measure the treatment of dyspepsia and of functional neuroses generally. The application of a pad over the displaced organ, with the object of confining it in its place (employed repeatedly by my patients) very often fails to relieve. In some cases it cannot be borne; in others it is without effect, whilst in others it relieves apparently by the pressure it exerts on the part, independently of its restraining influence; yet it must be admitted that in some few it seems almost to be curative. When the pain is severe, rest in the recumbent position is practically essential, though absolute repose will not always afford relief, and some patients insist that they are better when moving about. Careful diet and attention to the action of the bowels are very important. As a rule arsenic, strychnia, cod-liver oil, and, in anæmic people, iron, are of value; whilst massage and faradism have been of immense service in some of my cases. In two instances (Cases 14 and 16) the right kidney was stitched (nephrorrhaphy) in its place. In the former (Case 14) the result was not satisfactory; for though the patient improved for a while after the operation, he soon relapsed. In the latter the improvement was more striking and more lasting, but she also suffered a relapse. It is worthy of note that her most trying symptoms arose after the discovery of the tumour by herself, and it is just possible that the mental effect attending the disappearance of the floating body, which occasioned her untold worry, might be accountable for the alleviation of her symptoms. In another case (not one of my series) the details of which were supplied to me by a friend, excision of the movable kidney was practised without any relief. One of the most striking facts in connexion with the subject is, that notwithstanding the continued mobility of the kidney the symptoms will disappear from time to time, remaining away, it may be, for weeks or months, to return again when the patient's general health, and particularly his nervous system, has for some reason become impaired.

OBSERVATIONS ON ABSCESS AND OTHER DISEASES OF THE LIVER.

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(*Concluded from page 70.*)

WITH regard to the surgical treatment of hepatic abscess, I may mention that upwards of a quarter of a century ago it was the practice of some military surgeons serving in the Mediterranean and other stations to explore the liver for abscess in cases in which they suspected it; and this was notably the case at Ceylon. Occasionally one would see on invaliding boards soldiers with several cicatrices over the region of the liver, showing where the punctures had been made. It is well known that, in cases where an abscess has not been reached and evacuated, the patients have experienced relief after puncture of the liver, and that this liver phlebotomy has been proposed and successfully practised. The explanation of this relief may be the depletion of the gland, for in some cases the hæmorrhage is so considerable as even to be alarming. Happily it can commonly be restrained by direct pressure. But this hepatic depletion can hardly be an adequate explanation of other cases, where the loss of blood has been relatively insignificant and bore no proportion to the relief experienced. In cases where a liver abscess has been fully opened the hæmorrhage has been sometimes considerable, but I have never heard that it has been fatal. Still, the fact should be borne in mind, together with another practical point.

When a liver abscess has been evacuated, and a drainage-tube inserted between the lower ribs and maintained *in situ* for some time in connexion with the sac of the abscess, the relation of the latter to the outside opening may alter very much, and the tube may cause erosion of an intercostal artery and internal hæmorrhage into the sac of the abscess. An instance of this occurred within my observation.

It is unnecessary to describe the operation. The points to be recognised and met are—that it should be done as early as practicable; that an abscess, if found, should be opened antiseptically and freely; that the drainage-tube should be of a calibre equal to the requirements of the case; that the abscess should be systematically washed out with an antiseptic fluid to keep it sweet and clean (if bile finds its way into the abscess cavity it acts as an antiseptic, although it is better not to rely upon it for the purpose); that attention be given to the relation of the drainage-tube to the abscess cavity, for an opening through the abdominal wall into the liver abscess may as the case goes on occupy, as I have said, a very different position to that which it did originally; that the possibility of what may be termed secondary hæmorrhage should not be lost sight of; and that the subsequent progress of the case may render resection of a rib very desirable.

As regards the treatment of hepatic disease when there is reason to apprehend the possible occurrence of abscess, I think that the following line of treatment will be usually attended with excellent results. The patient should take no alcohol whatever, except under very special circumstances, but be put on a milk diet, or milk alternated with whey, and the blandest food. If there are symptoms of congestion of the liver, any tenderness on digital pressure, or feeling of uneasiness or nausea on lying on the left side, it is a good plan to apply a number of leeches to the anus, especially if the mucous membrane is congested or hæmorrhoids are present. The bowels should be at once relieved by an aperient, and their regular action maintained by the exhibition of saline aperients taken in hot water early in the morning. The best for the purpose are the effervescing form of sulphate of soda, sulphate of magnesia, or the phosphate of soda, in frequently repeated doses during the day if necessary; and, later on, a pill composed of compound rhubarb and euonymin, or iridin, at bedtime. There is no satisfactory evidence that the chloride of ammonium has any specific action in causing the absorption of an abscess of the liver, but it is an excellent medicine in congestive and quasi-inflammatory diseases of the liver, and its merits in this respect were long ago recognised in Germany. As the patient's progress becomes assured, he will be the better for a varied diet—chicken, essence of beef, boiled fish, and fresh fruit (grapes, baked apples, or pears, prunes, lemons, &c.); and he may apply nitro-hydrochloric acid locally, or take it internally with a vegetable bitter, followed by Easton's syrup. Where there is a history of malarious disease, and it has been followed by enlargement of the liver and spleen, with more or less anæmia and malarious cachexia, with a bronzed or mahogany kind of complexion, and a tendency to the recurrence of short and sharp fever, or what the patient sometimes terms bilious attacks, the following practice will often be attended with much advantage. Let the patient provide himself with a wooden tub, and every night at bedtime take a hot acid bath, made by pouring nitro-hydrochloric or nitric acid into a sufficient quantity of hot water to make a hip bath. The patient sits in this and thoroughly sponges himself, but not his face. He then rises and stands in the bath whilst he roughly dries himself with a coarse towel. Stepping out of the bath, he dries his feet, puts on a pyjama suit of light flannel, and goes to bed. He is to continue taking this bath at night for some time—for weeks together if it does him good. There is, of course, no reason why he should not be employing at the same time any other remedies that appear to be indicated.

Upon cases of chronic enlargement of the liver it is not intended to dwell at the present time; but a brief summary of the results of my observations may prove interesting, though they can scarcely be said to add much to existing information. In those instances which I have had an opportunity of examining post mortem, it appeared that the hepatic enlargement was always associated with disease of other organs. The large fatty liver was commonly connected with tuberculous disease of the lungs. In an acute form I have seen it, first, associated with atrophy, in acute yellow atrophy of the liver; the patients were adults, but young: one a sailor at the Royal Naval Hospital, Haslar, many years ago; another a soldier, and the third a woman, both residents at a Mediterranean station. There was no reason to suppose that phosphorus poisoning existed. The symptoms were jaundice attended with very active, almost maniacal delirium in one case, and all proved fatal. Secondly, in a case of a peculiar form of so-called bilious remittent fever, where the symptoms during life were clinically identical with those of yellow fever, the liver had apparently undergone an acute process of fatty degeneration and the duodenum was inflamed. Graves published years ago a report of some cases of acute duodenitis in which the symptoms closely mimicked those of yellow fever. The large, passively congested nutmeggy liver was usually the result of impeded circulation through the right heart from valvular disease of its left side—mitral disease and notably contraction of that orifice. The somewhat large, light-mahogany-coloured liver, with thickening of Glisson's capsule on its surface, was probably an early stage of cirrhosis, the result of intemperate habits and climate. The heavy, lardaceous, firm liver, giving a reaction with the iodine test, is sometimes, but not invariably, in my experience associated with a syphilitic history.

So many cases of abscess of the liver have now been recorded in which the abscess has been successfully evacuated and the patient's life saved, that there is no need to add to the list in order to demonstrate that it is the proper line of practice; but I append some notes of a few cases of abscess and other diseases of the liver in illustration of the subject. The first case illustrates that it is not necessary to have a history of previous residence in the tropics to be the victim of hepatic abscess.

CASE 1.—Gunner L——, Royal Artillery, aged twenty-five, had served in Malta, and subsequently in the Channel Islands. He was a pretty free liver and had, according to his own account, suffered from dyspeptic symptoms. On admission he had fever, foul tongue, anorexia, irregular bowels, and more or less abdominal tympanites. The liver was enlarged, its edge reaching downwards for three or four inches below the ribs, and there was dulness on percussion as high as the right nipple. It was rather tender on firm, deep pressure, which also gave him a feeling of nausea. There was uneasiness in lying on the left side; no shoulder pain. The fever assumed the hectic type, the evening temperature sometimes reaching 102° to 103°. The febrile exacerbations terminated usually in rather profuse sweating. Hepatic abscess was suspected; symptoms referable to pulmonary disease supervened, and a pleuritic friction sound was audible over the right base. He was subsequently seized with a violent and incessant cough, and expectorated

a large quantity of a dirty red-coloured pus, which was so profuse as "nearly to suffocate him in coming up." After a few days this was succeeded by a still larger quantity, and the liver tenderness and other symptoms greatly improved. The hepatic dulness diminished to such an extent that its limits became nearly normal. On another occasion the pus had a very bitter taste, and was distinctly yellow and bile stained. After several months' illness, during which he emaciated and suffered from a hectic kind of fever and occasional attacks of hæmoptysis and purulent expectoration, he began to recover, only complaining of a sense of "dragging" while lying upon the left side. He was eventually discharged the service in apparently good health, the liver having so contracted as to occupy, if anything, less than its normal site as determined by percussion, and when last heard of he was well.

CASE 2.—Private H. F——, 38th Regiment, aged thirty, invalided from India, was admitted into the Portsmouth Hospital. His history was one of acute dysentery followed by hepatic abscesses, one of which formed a swelling in the right hypochondrium below the ribs. He was much emaciated, slightly jaundiced, suffered from hectic and diarrhœa, and was occasionally delirious, and finally died. Post-mortem examination revealed one large abscess in the right lobe, with a pint and a half of fluid in it, and numerous other abscesses of various sizes in different parts of the liver, together with the marks of severe ulceration in the colon and rectum.

CASE 3.—Private J. G——, aged thirty, invalided from India, with the history of dysentery and probable abscess of the liver, was admitted in a semi-collapsed state into the Portsmouth Hospital. He died with the symptoms of peritonitis attributed to a liver abscess having burst into the peritoneum. Post-mortem examination revealed numerous abscesses in the liver and in the lungs, especially in the lower lobe of the right lung, which was consolidated. The convex and upper surface of the liver was destroyed by large abscesses in the hepatic substance, the walls of which were spongiform and without any limiting membrane. One of the abscesses had burst into the peritoneum and set up peritonitis. The large bowel presented the signs of a past dysentery of severe type, and the mucous membrane of the ilium was of a dirty crimson colour and covered with a pasty mucus; Peyer's glands were not affected. The spleen was large and unusually soft; the kidneys amyloid.

CASE 4.—Sergeant W——, Royal Artillery, aged thirty-three, was admitted to Portsmouth Hospital. This man had not served in the tropics, and his medical history sheet contained no entries, but he stated that he was very liable to "severe bilious attacks." Shortly before his admission he was seized with symptoms somewhat resembling an attack of English cholera. He had the aspect of a man seriously ill. Temperature 101·5°; pulse 110. Surface of trunk of body felt hot, but the extremities were cool. Tongue foul; yellowish-white fur. The abdomen was prominent and rather tympanitic, apparently from flatus in the small intestine. There was some fulness and decided tenderness on pressure of the right iliac region. He occasionally vomited. His bowels were loose; the stools dark coloured. In the course of a few days he became jaundiced, and the irritability of the stomach increased. The thoracic organs were healthy. The liver became enlarged, especially upwards, and its edge rather tender on pressure. The urine was portery from bile pigment, of high specific gravity, acid, and non-albuminous. Not to be tedious, I may say that the most obvious and pressing symptoms during his illness were: Vomiting, abdominal tympanites, with fulness and tenderness of the right iliac region, jaundice, hectic type of fever, with evening exacerbations and profuse sweating. The history and symptoms pointed to typhlitis or ulceration of the appendix vermiformis, and some form of blood-poisoning allied to pyæmia. The abdominal tenderness, especially about the right iliac region, and the tympanites increased, and he became delirious, and ultimately comatose before he died. Two or three days before this happened an eruption, closely resembling that of scarlatina, appeared on the neck and chest, with petechial ecchymosed looking spots on the extremities. The post-mortem examination revealed the following. The cæcum, about the situation of its appendix, with the right extremity of the omentum, were found to be closely adherent to the abdominal parietes, and the adherent portions of a very dark colour. The intestine at this part was ulcerated and thickened, and the appendix was traced with difficulty, from its being embedded in a mass of semi-gangrenous tissue. A small clot of half-putrid blood, with some decomposing and highly fetid fæces, were discovered on slitting up what appeared to be the vermiform appendage. Upon opening the superior mesenteric vein, it was found to contain some blood-clots. In some places these were so intimately adherent to the coats of the vessel, and had been so tunnelled out by the blood circulating through them, that the adhering fibrine looked like the lining membrane; but it was easily peeled off, and the epithelial coat below was found to be unaltered. As the epithelium presented the usual microscopic appearances, it was evident that the vein itself was not the cause of the coagula. In some places portions of decomposing blood-clot still remained, with a fluid exactly resembling pus. The liver, which was large and discoloured, was found to be full of small abscesses, from the size of a millet-seed to that of a walnut. These metastatic abscesses were in intimate connexion with the various branches of the portal veins, spreading out from them like leaves from the twigs of a tree. The portal veins were laid open, and the main divisions to the right and left lobes contained a quantity of pus, or a fluid like it to all appearance. The blood in the smaller branches was in a similar state, and here and there appeared as a long white streak, lying parallel to the section. The lobules, at the least affected parts, were surrounded by a dark ring of congestion. These abscesses had no limiting membrane; but were, in fact, composed of the disintegrated elements of the necrosed hepatic tissue. No abscesses existed in the lungs or other organs, the liver apparently having acted as an effectual filter in preventing the passage of the decomposed elements into the general circulation.

The diagnosis of hepatic abscess is occasionally attended with great difficulty.

CASE 5.—Private J. P——, 9th Regiment, aged thirty-six, but looks older, arrived at Portsmouth invalided from China. He had previously served for several years at St. Helena. At the former station he had been treated for "hepatitis." On the voyage home he suffered from the symptoms of acute dysentery, succeeded by pain in the region of the liver and right shoulder, frequent attacks of vomiting, constipated bowels, and jaundice. No doubt seemed to be entertained on the part of those who had treated him of the existence of hepatic abscess; but, as will be seen, considerable doubts soon arose as to the correctness of that diagnosis. On admission he was deeply jaundiced; the urine was dark, portery, and of high specific gravity; he was much emaciated, and had a cachectic appearance; he complained of a burning pain in the stomach about four hours after food, succeeded by vomiting. In the right hypochondrium, about an inch and a half to two inches below the ribs, there was a tumour, somewhat pyriform in shape and corresponding in site to that of the gall-bladder. It evidently sprang from the liver, as far as could be determined by palpation and percussion; it moved slightly with the movements of the patient's body and with deep inspiration. The stomach was much distended and very tympanitic. On careful palpation of the abdomen, a deep-seated circumscribed hardness could also be felt between the ensiform cartilage and the umbilicus, but nearer to the latter. This was altogether distinct from the former tumour, but was not always to be detected, disappearing sometimes altogether when the stomach and intestines were distended. The swelling persisted after clearing out the bowels by enemata, and did not apparently arise from scybala in the colon. Looking to the age of the patient, his emaciation, the character of the pain, the nature of the swelling and its situation, the diagnosis suggested was malignant disease of the stomach involving the lesser omentum and its enclosed common duct, and giving rise to a dilated gall-bladder. The patient died, and the post-mortem examination revealed the following:—Lungs: pneumonic consolidation of the right lower lobe, with what, seemingly, were cancerous tubercles about the roots of the lungs and bronchial glands. Abdomen: great distension of the stomach; the gall-bladder projecting as a large oval tumour from beneath the edge of the liver; cancerous disease of the pylorus and the parts in its immediate vicinity, involving the lesser omentum and its enclosed vessels and head of the pancreas, the whole together forming a mass of disease. Some of the glands in the pelvis and along the vertebral column were also enlarged and hardened. The gall-bladder was greatly distended with a dark treacle-

like fluid. The common bile-duct was traced with great difficulty; for a short distance it was dilated, but it was impervious to the passage of a blowpipe beyond, nor could air be made to pass through the blowpipe into the duodenum.

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THE EFFECT OF SECTION OF THE PHRENIC NERVES.

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EVERYONE who listens to a course of lectures in a medical institution is told that injuries to the cervical spine, to certain parts of the neck, or to the diaphragm itself, are followed by results of the most serious import, or even by death from failure of respiration owing to paralysis of the diaphragm. Every text-book which is large enough to consider the subject in its breadth teaches the same doctrine; and while injuries of the kind we have spoken of are not common occurrences, it is essential that, when they do occur, they shall be treated, not as cases in which the prognosis is necessarily fatal, but as instances in which our increasing knowledge may be said to have triumphed over our past ignorance. Everyone knows that respiration, while it is carried on in an identical manner in all warm-blooded animals so far as its major features are concerned, is of a different character in its minor points in nearly every variety of animal life, and, furthermore, in many instances is markedly different even in the two sexes. Thus the respiration of the human being is carried on, not only by the diaphragm, but also by the intercostal muscles and those large bundles of muscle which are so plentifully distributed over the chest wall. It is also well recognised that the movement of the diaphragm and the thoracic respiratory muscles are in unison, and that each one aids the other by increased action whenever necessity arises. That respiration may, however, be carried on sufficiently well to support life, even though these two sets of muscular fibres do not act together, has been proved by such well-known investigators as Mosso,[1] who found that the want of agreement between the movements of respiration may become so great that the diaphragm and thorax move in opposite directions at the same moment. This, for example, occurs sometimes during the sleep produced by large doses of chloral both in man and the lower animals. Again, it is perfectly possible in some animals to inhibit the action of the diaphragm or thorax completely without producing very marked, or, indeed, any noticeable, change in the general system, either because the action of one is so imperfect, at any rate, that its loss is scarcely felt, or because one portion is enabled by increased action to make compensation for the deficient activity of the other part. A very familiar example of this is seen in every-day life, when some abnormal growth in the abdomen presses upon the diaphragm in such a way as to prevent it from carrying on its functions, and under these circumstances the chest muscles become accustomed to bear a greater strain and to supplement the diaphragm.

Contrariwise, growths in the chest, or chronic disease of the lungs, frequently lead to the total abolition of chest movement and enormous increase in the diaphragmatic functional activity. In the human race we have, perhaps, in a better way than occurs in any of the domestic animals, an example of the variation which sex brings about in the respiratory function. Thus the diaphragm plays a far more important part in respiration in the male than in the female; so that while in man the chest movement is at a minimum and the abdominal movement at a maximum, in the average woman this state of things is directly reversed, for obvious and physiological reasons. In the woman far advanced in pregnancy the upward displacement of the intestines against the diaphragm impedes its movements very greatly, and if the natural breathing of the female was not so largely thoracic, even greater dyspnœa would come on in pregnancy, particularly in its advanced stages, than we are accustomed to see. This form of thoracic respiration is the explanation of the survival of tight corsets in the average woman, and it is the abdominal breathing of the male which makes any similar constriction absolutely unbearable and suffocating. Again, in the female, ascites and all dropsical affections of the abdominal cavity are less frequently associated with dyspnœa than are similar affections in man. Even the enormous ovarian tumours sometimes seen are not accompanied by the dyspnœa one would expect, for the double reason that the thorax moves more easily, and becomes more rapidly accustomed to compensatory action, than does the thorax of the male. Mosso,[2] however, has made an interesting observation which we have not been able to confirm—namely, that during sleep in both sexes respiration is carried on almost entirely by the thorax, and that in some cases the diaphragm moves so seldom that one might imagine the muscle paralysed. Not only have we failed to note this condition in adult males and females, but also in children, and we think that this statement of Mosso is also at variance with the well-known fact that persons who can lie with the head moderately low during their waking hours cannot lie in the same position without oppression of breathing while asleep. This is doubtless partly due to the fact that voluntary breathing during sleep is lost; but if Mosso's idea be correct, then the period of sleep would be more comfortable than that of waking, owing to the quietude of the diaphragm, which he believes is normally present when consciousness is removed.

From what we have just said it is evident that woman can physiologically survive injuries affecting the movements of the diaphragm much more readily than can man, and we think that this should be considered as an important factor when making a prognosis as to the ultimate result of any such traumatism. Those who are cognisant of the recent teaching of physiologists concerning phrenic nerves will remember that their chief function is to innervate the diaphragm, and that, if these nerves are cut or their function is in any way arrested, the diaphragm becomes but a relaxed and flabby sheet of muscle, which is pulled hither and thither as the atmospheric pressure is altered by the movements of the thorax. They will also remember that, according to the most generally received teachings of the past, such a condition has been generally conceded as fatal in man and in most of the lower animals; but we have conclusively proved that this idea is not only fallacious in theory and practice in man, but that it is also *partially untrue* even in those animals in which respiration *depends entirely*, during ordinary life, upon the diaphragmatic movements. Thus, in the rabbit of full growth, it will be seen that the chest walls move not at all unless under increased respiratory action; yet we have found, and our results are confirmed by Marckwald,[3] that section of the phrenic nerves in these animals, provided they are over four months of age, is not necessarily followed by death, and is never so followed provided the animal is allowed to assume a position in which the full play of the chest muscles may be brought about. (See Experiments 1, 2, 3, 4, and 5.)

It is evident, therefore, that in the human being, whose respiratory movements are largely thoracic, there is far less increase in the action of the chest muscles, in order that respiration may be carried on after paralysis of the phrenics, than in an animal whose normal breathing is never thoracic, but always diaphragmatic. Consequently logical reasoning of necessity brings us to the conclusion that injuries producing this lesion should not be fatal in man provided certain precautions are followed.

Although, as has already been stated, all our teachings heretofore have been that such conditions end fatally, we are not without records given us by capable observers proving that our opinion in this matter is correct. Thus Duchenne has observed cases in which complete paralysis and atrophy of the diaphragm existed to such a degree that during inspiration the epigastrium and hypochondrium fell in, while the thorax expanded, the opposite movement occurring during expiration. The patients "appear to

[1] Archivio per le Scienze Mediche, 1878.

[2] Loc. cit.

[3] Studies on Respiration, Kreuznach, 1888.

aspirate their abdominal viscera by dilating their thoraces during inspiration." This same observer states that he has seen this condition in those suffering from hysteria, progressive muscular atrophy, and chronic lead poisoning, and that he is cognisant of cases in which this condition persisted for years. Our reasoning that man should, theoretically, suffer less than rabbits from diaphragmatic palsy is supported, therefore, both by clinical evidence and also by experiments which we have recently performed, the results of which form part of this paper.

Returning for one moment in order that we may adduce still further clinical evidence in support of our views, we may mention a case described by Bell, in which a person with injury to the spinal cord above the origin of the phrenic nerves survived the accident for half an hour. That life was not prolonged for a greater period was due, in this case, to the fact that not only the phrenic nerves, but, in addition, all the nerves supplying the muscles of the chest, were paralysed by the injury, so that thoracic movement was absolutely impossible. This is evidenced by the statement of Bell himself, who asserts that the movements of respiration were carried on solely by contractions of the muscles of the neck and shoulders. We have found that in some of the higher animals whose breathing is largely thoracic, no untoward effects follow phrenic section, and Panizza has done lfkewise; thus, in the dog, while paralysis of the diaphragm produces instantly very noticeable changes in the respiratory movements, it cannot be said that any signs of asphyxia develop themselves, simply because the thoracic muscles instantly increase their functional activity. That this increase in activity is not only imaginary, but real, is proved by the fact that if the animal be killed several weeks later, the muscles of the chest are found greatly hypertrophied, and the antero-posterior and lateral diameters of the thorax are greatly increased. At the same time it is to be noted that the diaphragm has undergone very marked degeneration and atrophy as a result of its lack of nerve-supply and functional activity. A very typical instance showing this result can be obtained in the animal in which the phrenic nerve has been cut on one side only, as under these circumstances the half of the diaphragm on the injured side may, in the course of two weeks, be found thin and membranous, while the opposite side not only preserves its normal thickness, but is generally better developed than before. We have performed bilateral phrenic section in the rabbit, the dog, the goat, the horse, and the monkey, and the results reached we now wish to place before our readers. (See Experiments 1, 2, 3, 4, and 5.) In order that no more pain might be given than was necessary, and chiefly to avoid a reopening of the wound for antiseptic reasons, we have found it necessary to make section of these nerves, not by the scissors or knife, but by a sudden quick jerk of the hitherto slack ligature passed behind the nerve. If the jerk be instantaneous and forcible, a fine, strong ligature cuts its way through with less pain to the animal than would ordinarily be imagined; and while, at the first glance, it would seem as if one could not tell that the nerves were completely severed by such means unless the wound was opened, yet the mere fact that a loop comes away perfectly intact, and often with a small quantity of nervous matter adhering to it, proves absolutely that the nerve has been completely divided.

(To be concluded.)

THE TREATMENT OF FRACTURE OF THE PATELLA BY MAYO ROBSON'S METHOD.

BY J. FLETCHER HORNE, F.R.C.S. ED.,
SURGEON TO THE BARNSLEY BECKETT HOSPITAL.

THE treatment of simple transverse fracture of the patella from the sixteenth century to the present time has been a pons asinorum to the surgeon, as evidenced by the variety of treatment—from the incline plane, pulley and weight, Malgaigne's hooks, to laying open the joint and wiring the fragments together. Thomas of Liverpool has said: "Of all the important fractures presented to the surgeon for treatment, the easiest to restore and repair is fracture of the patella." This I venture to think is not the verdict of the profession generally; it may be easy to treat, but of all fractures the most difficult to get bony union. Hamilton, without denying the possibility of union by bone, says: "I do not know positively that in any case the union was by bone"; whilst Hutchinson writes that no proof has yet been afforded that transverse fracture of the patella with considerable separation at the time ever unites by bone. I find the Musée Dupuytren and the Museum of the Royal College of Surgeons of Ireland have each specimens of true osseous union. In a large majority of cases under any plan of treatment a fibrous union of the fragments is all that can be expected; to obtain the shortest possible ligamentous union, possibly an osseous one, is the object of our ambition; for its attainment I think the plan advocated by my friend, Mr. A. W. Mayo Robson, will be found one of the best of the many which have been devised for approximating the fragments by direct pressure.

Soon after reading a short *résumé* in THE LANCET of June 1st, 1889, of Mr. Robson's paper, read before the Clinical Society of London, May 24th, 1889, I was called to the case of which I append the following notes.

M. S——, aged thirty, miner, on July 6th, at 2 P.M., walking home from work, caught his foot upon a bit of stone on the footpath, dropped on his right knee and then upon his face. He felt very sick, was raised by his companions, and, as he was unable to walk, they carried him a short distance, and then got him home in a waggonette. I saw him at 5 o'clock, his legs stretched across two chairs. There was complete loss of power over the joint, with considerable pain and swelling. The fracture was easily made out as a transverse one, the fragments separated to the extent of an inch, with the limb extended. The patient was placed under ether by my colleague, Dr. Wetherell, the limb washed, and then carefully bathed with bichloride of mercury lotion (1 in 1000). I procured two steel pins seven inches long, with large glass heads, as used by ladies to fasten on the bonnet, and carefully purified them. I passed one through the tendon of the quadriceps extensor, just above the superior edge of the upper fragment, the second needle being passed in like manner through the ligamentum patellæ. By traction the fragments of bone were easily brought into apposition. A figure-of-eight ligature of fine whipcord was passed over the pins to keep the fragment of bone in position, and the sharp points of the pins cut off, The cut ends were guarded by cotton-wool and the joint encased in a plaster-of-Paris bandage. As the aspirator was not at hand, I omitted its use to draw off the effusion as recommended. The temperature never rose above normal, and on July 27th, three weeks having elapsed, a window was cut in the bandage large enough to withdraw the pins. A slight oozing of blood followed, which was mopped up with carbolised wool, dusted with iodoform, and the plaster-of-Paris reapplied. On Aug. 27th the limb was cleared of the bandage, the fracture found in good position, and placed on Arnold's knee splint with extension screw, held in position by plaster-of-Paris bandage, and the patient allowed to get about on crutches; a privilege of which he availed himself readily. On Nov. 23rd the splint was removed; union appeared to be bony and complete, the case having been under treatment twenty weeks. On Dec. 12th I examined the knee. No change had taken place from freely walking out each day. The patient certainly walked well, showing no stiffness or deformity. The treatment differed slightly from Robson's in minor details, as I had to trust to memory, but the broad principle remains. Its advantages appear to be simplicity, the absence of risk, and the obtaining of bony union.

GUY'S HOSPITAL.—A gratifying and tangible recognition of the services of many of the nurses took place at this hospital last week, by the presentation to each of them of a medal—a graceful decoration of merit which might be adopted by other similar institutions.

NAVAL COLLEGE, PORTSMOUTH.—In consequence of the late prevalence of typhoid fever at this College, and a suspicion of the existence of sanitary defects as the cause, the drainage of the institution has been submitted to scrutiny by experts, who, however, have failed to detect anything so faulty as to warrant the conclusion that the epidemic had arisen from such a source.

A FEW REMARKS UPON SOME OF THE MORE IMPORTANT CHANGES WHICH WILL BE EFFECTED BY THE LUNACY ACTS AMENDMENT ACT, 1889.

BY JAMES ADAM, M.D.

IN August, 1845, an Act for the regulation of the care and treatment of lunatics came into force, and that Act as amended and consolidated by Acts passed in 1853, and as further amended by the Lunacy Acts Amendment Act of 1862, constitutes the existing Lunacy Law, and this will remain in force until the 1st day of May next. On that day the Lunacy Acts Amendment Act, 1889, and probably also a consolidation Act, which is to be passed early in next session of Parliament, will come into operation. One or two sections of the new Act, however, and very important sections they are, came into force immediately after the passing of the Act, on the 26th of August last. That the Act of 1845, as amended, has been allowed so long and so comparatively peaceful periods of existence is matter for wonder; but for several years past, it is well known, there has been in existence, with some degree of activity and persistence, one of those periodic crusades against it and its operation to which, from the very nature of such Acts, it is next to impossible they should continue long exempt, designed as they are to give the controlling power necessary in some cases, as part of the treatment of one of the most formidable maladies to which flesh is heir, it follows as a matter of course that the exercise of this necessary control is in some cases followed by resentment, not infrequently pursued with vindictiveness and malignity. An agitation once set on foot against an Act of this kind is certain to have many to join in it, for the general public is jealous of infringed liberty in any form, and of course knows nothing of the real nature of such Acts, the rigid manner in which their provisions are enforced by those in authority, or the vigilance with which persons of unsound mind are safeguarded and their interests cared for; otherwise, such periodic agitations would speedily die a natural death, and the possibility of wrongful or illegal detention would inevitably be relegated to the natural birthplace of such idle beliefs—the realms of fiction and fancy. There was the less excuse, however, for this last agitation, because, at so comparatively recent a period as the year 1877, a select committee of the House of Commons on the Lunacy Laws, after sitting from March to July, 1877, and after having taken the very fullest evidence from every available source, gave as their deliverance, in 1878, "that allegations of *mala fides*, or of serious abuses, were not substantiated."

The burden of the recent agitation fell heavily upon individual members of the medical profession. Vexatious litigation, with all its attendant worries and anxieties, reigned paramount, and, although but seldom successful, yet the results of such actions albeit victorious were often as disastrous as defeat, a successful defence being usually compensated by an award of costs, unrecoverable from impecunious plaintiffs. The glorious uncertainty of the law became more gloriously uncertain than ever by the widely differing views of various high judicial authorities on the interpretation of the same sections of existing Acts, and the differing decisions consequently given upon them. Happily, this unpleasant state of things may now be spoken of as in the past. The very urgent necessity which arose for giving immediate protection to medical practitioners called upon to deal with the insane (if it were wished that they should ever resume this function, so long in abeyance with such disastrous results) has been fully recognised by our legislators, and one of the immediately operative clauses of the new Act is the result.

This section (No. 12), sub-section 1, reads thus:—"A person who before the passing of this Act has signed, or carried out, or done any act with a view to sign or carry out an order purporting to be a reception order, or a medical certificate that a person is of unsound mind, and a person who after the passing of this Act presents a petition for any such order, or signs, or carries out, or does any act with a view to sign or carry out an order purporting to be a reception order, or any report or certificate purporting to be a report or certificate under this Act, or does anything in pursuance of this Act, shall not be liable to any civil or criminal proceedings, whether on the want of jurisdiction or on any other ground, if such person has acted in good faith and with reasonable care."

This sub section has been given at length, because it will be seen that under its provisions all vexations actions, either on account of anything done in the past or to be done in the future, must of necessity cease.

Equally important is sub-section 2, as follows:—"If any proceedings are taken against any person for signing or carrying out, or doing any act with a view to sign or carry out any such order, report, or certificate, or presenting any such petition as in the last sub-section mentioned, or doing anything in pursuance of this Act, such proceedings may, upon summary application to the High Court of Justice, or a judge thereof, be stayed upon such terms as to costs and otherwise as the court or judge may think fit, if the court or judge is satisfied that there is no reasonable ground for alleging want of good faith or reasonable care. 3. This section shall come into force immediately after the passing of the Act."

The purport of the present Act is stated to be to furnish safeguards against the improper confinement of persons as lunatics, by allowing them to be detained only under orders made by an independent authority, and at the same time to remove the difficulty which is at present felt in securing the speedy treatment of mental disease by giving protection to medical practitioners, and others, who in the performance of their duty are concerned with lunatics. It is also stated that the principle of the Scotch procedure has been adopted with somewhat fuller elaboration of details. To carry out these objects the Act provides that instead of a private patient being received into an asylum, hospital, licensed house, or as a single patient, as at present, upon an order signed by a relative or other person, and two medical certificates; that, except in cases of urgency, no private patient is to be received without an order of a county court judge, magistrate, or justice, which is to be obtained upon a petition presented if possible by the husband or wife, or by a relative, and accompanied by two medical certificates. All persons engaged in carrying this out are sworn to secrecy, and thus no publicity will be incurred in obtaining the reception order.

Under the existing Acts the practitioner not unfrequently experiences a difficulty in dealing with necessary promptness in urgent cases of mental disease, and placing them under proper care and control; the new Act deals with this difficulty under Section 8, which provides that in urgent cases an order for reception may be made by the husband or wife, or by a relative of the patient, accompanied by one medical certificate. This urgency, or emergency order, as it is called in Scotland, remains valid for seven days, or during such time as the petition which is presented in the meantime is pending.

In pauper cases under the present Act a clergyman and relieving officer acting together are authorised to give a reception order. This power is taken away under the new Act, Section 19; and provision is made under Section 21 to prevent the improper confinement of lunatics in workhouses. A pauper lunatic may only be detained in a workhouse for fourteen days upon medical certificate; for longer detention an order of a justice is necessary.

Periodic reports are to be made to the Commissioners in Lunacy regarding all patients in asylums, and any person may apply to the Commissioners to have a patient medically examined. The Commissioners in Lunacy are empowered to make inquiries as to persons who are treated as lunatics in charitable and religious establishments and in the houses of persons who derive no profit from the charge (under Section 41).

Under Section 40 encouragement is given to the relatives of pauper patients to take charge of them by allowing payment to be made by the guardians of the poor for them.

Under Section 34 the law as to single patients in private houses is much increased in stringency: "Sub-section 1. Any two Commissioners may direct that the medical attendant of a single patient shall cease to act in that capacity, and that some other person act in his place. 2. If the person having charge of the patient fails to give effect to the direction by causing the patient to be visited

by some other medical practitioner, he shall be guilty of a misdemeanour. 3. One or more of the Commissioners shall once at least in every year visit every unlicensed house in which a single patient is detained as a lunatic, and inquire and report to the Commissioners on the treatment and state of bodily and mental health of the patient. 4. Any Commissioner visiting an unlicensed house may inspect every part of the house and the grounds belonging thereto. 5. If the person having charge of a single patient refuses to show to any Commissioner at his request any part of the house wherein the single patient resides, or any part of the grounds belonging thereto, he shall be guilty of a misdemeanour. 6. The Commissioners have power to give authority to a person having charge of one patient to receive more than one without a licence, and orders for the reception of single cases are similarly to patients sent to asylums to be made by a county court judge, magistrate, or justice. All letters written by patients must be forwarded to the address upon them unopened if addressed to the Commissioners, or preserved and retained for inspection by the Commissioners in Lunacy."

Under Section 45 mechanical means of bodily restraint may not be applied to any patient unless the restraint is necessary for purposes of surgical or medical treatment, or to prevent the patient from injuring himself or others, in which case a medical certificate must be given under penalty of being guilty of a misdemeanour. Under Section 48 power is given to the court to appoint a committee of the estate only of a person who, upon inquisition is found capable of managing himself, but incapable of managing his affairs. Under Section 56 no new licence is to be granted for a house for the reception of patients, but vested rights are protected, and provision is made for houses in course of being established at the passing of the Act, and for the substitution of new houses for existing houses. Persons not paupers may also be received into county asylums, and local authorities may provide accommodation for lunatics not paupers either by enlarging existing pauper asylums or by establishing new asylums. Justices are also empowered to purchase licensed houses. Power is given to amalgamate the lunacy departments if it is found expedient to do so. Power is also given under the Act, which does not at present exist, to retake patients escaping into Ireland or Scotland, and to send aliens to their native country. Perhaps one of the most useful and beneficial provisions of the new Act is to be found in Section 39. One constantly meets with cases on the borderland of mental disorder in which the patient is fully conscious of his condition and what may be impending, the difficulty is to know what to do with him under the existing Act. The removal from home surrounding for a time, and it may be from every-day cares and worries, which would probably be salvation for him, is not permitted, however much he may wish voluntarily to place himself under treatment, unless he can prove that he has within the previous five years been under treatment as a lunatic. I have known patients so desirous to place themselves under treatment of their own accord that they have personally gone to medical men and had themselves certified when they found there was no other means open to them for doing so.

Section 39 alters all this, and under its provisions any person who wishes to do so may voluntarily place himself under treatment with the consent of the Commissioners in Lunacy or visitors to be obtained upon an application to them, signed by the intending voluntary boarder, this being the procedure under the Scottish Act, on which the section is framed, presumably it will be the same under the new Act, and no doubt it will be followed by results as beneficial as those obtained in Scotland, facilitating, as it will do immensely, the early and legitimate treatment of mental disorder. A relative or friend of any patient may, with similar consent, be allowed to reside with him as a boarder.

West Malling.

GREAT NORTHERN CENTRAL HOSPITAL, LONDON.—On Tuesday the Princess Louise, who was accompanied by the Marquis of Lorne, opened a Loan Exhibition of Pictures at the Gallery of the Camden School of Art, 4, Bartholomew-road, Camden-road, in aid of the building fund of the hospital. The present number of beds is found to be insufficient, and the committee are desirous to make provision for 150 in-patients, together with the requisite accommodation for officers and the nursing staff. The Exhibition will remain open for ten days.

THE PREVENTION OF INFLUENZA BASED ON THE GERM THEORY, AND NOTES ON THE PRESENT EPIDEMIC.

BY W. STEPHENSON RICHMOND, M.R.C.S.

CATARRH and influenza are two distinct diseases which familiarly come under the generic title of colds, and sometimes distinguished as an ordinary cold or a feverish cold; but they are so dependent the one on the other that we cannot rightly understand the one without considering the other. Catarrh, or simple cold, is merely mechanical congestion of the mucous membrane of the nasal and pharyngeal passages, caused by exposure to alternating temperatures, and producing no fever or constitutional disturbance. Influenza is a disease due to a specific germ which, when absorbed into the blood, causes febrile disturbance accompanied by vicarious pains and other constitutional symptoms. An ordinary catarrh is brought about by the action of varying temperatures on the nasal passages. A sudden change from breathing the atmosphere of a warm room to the cold air outside will produce congestion of the mucous membranes. Nature relieves this congestion by secretion, or the membranes may be brought to their normal condition by the aid of drugs, and here a simple catarrh ends. But this congested surface forms a favourable nidus for the influenza germ. The healthy mucous membrane is able to resist and destroy the numbers of germs we inhale at every breath, but the unhealthy membrane has lost this power. The influenza germ fixes itself to the congested surface, and by irritation keeps up the congestion, and finally becomes absorbed into the blood. In the daily journals of the 8th inst., Professor Weber of Halle is said to affirm that "the excitant of disease in influenza is a fungus, which was discovered some years ago to exist in nasal secretions," but he does not tell us how the fungus, as a cause, could get there. I think this fungus is much more evidently a product due to the irritation of a germ, and the result of a change which no doubt the germ undergoes in passing into the blood, than the original excitant of the disease.

Now, the passage of the germ into the blood gives rise to rigors or chills, and I believe from the number of cases I have attended, the period of incubation to be from twenty-four to forty-eight hours, these being the extreme limits. Loss of appetite and pain in the eyes and over the frontal region are the first symptoms complained of. Epistaxis I regard as rather a symptom of catarrh, and not due to influenza. Here I may note that influenza is generally preceded by catarrh, but not always. The invariable course of the pains complained of in the present epidemic has struck me very forcibly. The pain is first felt over the eyes, then at the back of the head and neck, then in the lumbar region, and, passing down the course of the sciatics, finally disappears at the toes. The temperature on the third day (probably the first day the patient takes to bed) rises in ordinary cases to 101° or 102°, and in more severe cases to 104°. If treated with diaphoretics, the temperature will most probably be brought down on the following day to normal, to be succeeded by a subnormal temperature. And this is one of the most distinguishing symptoms of the present disease. A condition of extreme prostration supervenes. A feeling of utter helplessness comes over the patient, so that he can hardly raise his hand from the bed. This condition, as a rule, will only last for a day, and may almost be obviated by an early administration of strychnine and stimulants. In the course of a few days health will be restored. The present epidemic seems to me to differ from others which we have every year only in the exacerbation of its symptoms and the virulence of its nature, the actual attack lasting but a few days, but producing an effect on the body out of all proportion to the length of its existence; the rapid loss of flesh being very marked.

As to the treatment, preventive and curative, I believe enough has not been said about the former. Believing influenza to be due to a germ, and generally preceded by catarrh, I assume preventive medicine should aim at destruction of the germ and relief of the congestion. I believe for the former there is nothing to surpass eucalyptus, and I am surprised that more has not been said about inhaling eucalyptus oil during the present epidemic. I believe it is *absolutely preventive*, and my experience and observation of it are not confined to the present epidemic. Eucalyptus destroys the germs, and,

added to ammonia, which stimulates the local circulation, forms the best inhalant for the prevention of the disease I yet know of. It may be used as a spray, or as a perfume to be used two or three times a day, inhaled by means of a handkerchief. I think it vastly superior to menthol. I cannot speak too highly of menthol injected into the nostril with olive oil in chronic catarrh, but its effect as an inhalant has not been altogether free from bad effects.

Curative treatment.—The idea of killing the germ when it is once in the blood is out of the question. We must remember the germ first attacks the nasal passages and travels towards the bronchi, and is favoured by a congested surface. Therefore, if we can limit this surface, we limit the area of absorption; and I am convinced this is best done by diaphoretics, which at the same time reduce the temperature. When the temperature is normal, the symptoms of prostration are best treated with strychnine and stimulants. I believe the disease is on the increase in the west of London. It first of all attacks large institutions, where people are congregated together in large numbers, but it is slower in permeating into private families. It is comforting that its consequences as a rule are not serious.

Stanwick-road, West Kensington, W.

COLOTOMY AT SEVENTY-THREE YEARS OF AGE; PATIENT SURVIVING THREE YEARS LATER.

BY GEORGE A. HAWKINS-AMBLER, M.R.C.S. &c.

THERE is nothing in the following case to warrant me in intruding it upon readers of THE LANCET beyond the circumstances under which the operation was performed, and the immense gain to the patient in life and ease from its performance. The facts that the operating room was a small and ill-lighted cottage bedroom, the patient at an advanced time of life, and her nurses two daughters completely uninstructed in that art, have induced me to think the case of sufficient interest to be recorded as an encouragement to some who, like myself, often feel an aversion to operate under the unfavourable conditions imposed upon them by country life and the exigencies of practice amongst the working classes.

Mrs. B——, tailoress, aged seventy-three years, had in January, 1887, been under my care for several months, during which her symptoms were those of growing obstruction of the bowels from a cancerous growth that could be felt constricting the rectum within reach of the finger. Frequent calls to stool, with straining, griping, and the passage of scanty, dark, or black stools, evidently the washings of retained fæces, had caused her much anxiety and a growing weakness. Drugs afforded but little relief, and that obtained from injections of warm water, oil, &c., beyond the stricture by means of a catheter was only temporary and partial. The symptoms culminated by the end of the month in complete obstruction, incessant vomiting, tenesmus, and some tympanites, and became so rapidly grave that I insisted upon what I had often urged previously—the performance of left lumbar colotomy. This I did on Jan. 29th, on which occasion Drs. Clark and Scougal of Huddersfield afforded me very valuable assistance. The operation calls for no detailed description, being perfectly simple and straightforward throughout; the gut was easily found, stitched to the margins of the wound, and opened at once. I should have remarked that the patient was stout and of a full habit, and there was a thick layer of fat to cut through. The patient was very restless on recovering from the effects of the ether, and her temperature ran up to 100° F. in the evening, while for some days the pulse hovered about 120. The tongue was dry and caked, and my impromptu nurses varied the monotony of the veal broth, soda water and milk, &c. I had ordered by tea and toast and more substantial nourishment, and admitted the patient's friends to converse and sympathise with her, which they came to do "early and often." We now had the usual exhausting discharge of long-retained fæces to contend with, and I dressed the wound myself three times a day, took care that the patient was duly supplied with food, port wine, and champagne, and relieved her pain with opium. There was and has since been occasional trouble with the urine, it being scanty and deep-coloured. There was, too, much inflammation round the margins of the wound, and on Feb. 4th I noted a pulse of 140, much pain and exhaustion, and difficult and painful passage of hard, clay-like fæces, which were scooped out of the gaping wound, the temperature reached 100·4°. After this, on Feb. 5th, the motions became very liquid and copious; but the patient took nourishment freely, and I gave her malt extract and syrup of hypophosphites. By March 19th she was sitting up four hours a day, and on June 16th made a complete pair of trousers, for which she used the sewing machine, and went about her work as usual, suffering no inconvenience beyond occasional bulging of the intestine through the wound, and sometimes a slight sanious discharge from the rectum. She has lost all the straining and griping and frequent stools, and one day during the last summer walked more than four miles, up and down hill, without special fatigue. As to the cancerous growth, that makes slow but certain progress, and the patient is losing ground, developing cachexia, and growing less active. She is at work yet, but does little, and has an attack at intervals, growing less prolonged, of one or two months, of partial suppression of urine, pain in the umbilical region, watery and clayey motions, and (but only at such times) troublesome bulging of the bowel through the wound. During the attack from which she has just recovered there was a slight discharge of blood from the rectum.

I have aimed in these brief notes at telling merely the salient points of this case, and avoiding such detail and description as was likely to be tedious and unprofitable; but I trust that my endeavour to show the encouraging features in it will not be altogether without success.

Kirkburton, Huddersfield.

PATHOLOGICAL OBJECTIONS TO CURETTING THE UTERUS IN PUERPERAL FEVER.

BY E. TENISON COLLINS, L.S.A.

A RECENT SUGGESTION to curette the uterus in puerperal fever appears both unnecessary and pathologically unjustifiable. This fever is a septicæmia, in no way specific or different from general wound sepsis, and may be said to occur as sapræmia or as septic infection.

In the sapræmic form the putrefactive germs admitted into the genital tract during labour rapidly multiply in the lochial discharges (themselves innocuous) and in the contused or abraded mucous surfaces. These special germs of putrefaction are saprophytic and speedily perish in the blood, and are powerless to attack living tissues. The discharges become offensive, and if partially retained give rise to constitutional symptoms. It is, however, only the chemical products and not the organisms themselves that invade the system and cause the sapræmic form of puerperal fever, the intensity of which is directly proportionate to the dose of chemical poison absorbed. If the dose be a large one, the most severe symptoms of acute septic poisoning may set in and rapidly culminate in death. Certain post-mortem appearances are found, but no micro-organisms have been discovered in the blood, and the blood is not infective. The onset of the fever is indicated by a more or less rapid rise of temperature. There is usually no rigor, and the disease is non-infective. The obvious treatment is to remove the putrefactive material supplying the poison, and this can be done efficiently by intra-uterine antiseptic irrigation, inasmuch as the bacteria do not exist in the living uterine tissues. Curetting alone is useless, and if with irrigation unnecessary; and further, by creating a fresh breach of surface for absorption, may be an actual source of danger. Curetting can only be of service for the removal of portions of putrefying placenta or decidua.

In the second form, or septic infection, micro-organisms again play an active part, but are pathogenic. They invade the living tissue and increase in the blood, causing fever of a well-known intensely contagious type. The nature of the virus is unknown, and though micrococci and streptococci have been found in all the organs secondarily affected by puerperal fever, they do not exist as a separate species like the tubercle bacillus or bacillus subtilis. The germs are introduced into the genital tract by the surgeon's hands or

instruments; and should putrefaction of the lochia coexist, they find a suitable nutrient material for development, or attack the injured tissues whose vitality and resisting power is lowered. They invade the system through the lymphatic or venous channels, or by extension along the planes of connective tissue. The constitutional fever may be accompanied by localised pelvic cellulitis or pelvic peritonitis, or by acute septic infection of the whole peritoneum (diffuse peritonitis) and distant complications. The local uterine affection may be insignificant and not indicated by the lochia, death resulting from acute disintegration of the blood causing collapse. "The condition of the lochia is not of any diagnostic or prognostic import; it merely indicates the state of the inner surface of the uterus, and not always that. Altered uterine surface need not reveal itself in altered lochial secretions, and serious diseases may be present where the flow appears healthy, while decomposed lochia do not always prove that infection has occurred."[1]

Infective puerperal fever is ushered in by a rigor more or less severe, followed by elevation of temperature, indicating the invasion of the system by the virus of infection. Here it is needless to point out the inutility of curetting. Once systemic septic infection has occurred no local treatment whatever will prevent the multiplication of the virus in the blood; nor do we possess any specific able to counteract or destroy the infective organisms so admitted. Thorough antiseptic irrigation of the uterine cavity and vagina alone avails, and even this ceases to be of much importance after a few days.

Beyond, therefore, thorough asepticity of the hands and instruments during labour, and of antiseptic syringing of the vagina, both before examination and after parturition, especially important when discharge of meconium has occurred, we have no direct operative means of preventing septic intoxication or infection. When this has been done, Spiegelberg declares it "bad practice to irrigate," except on the definite indications of putrefying matters in the parturient tract or the supervention of pyrexia.

The basis upon which the suggestion to curette is founded, that of an analogy between the puerperal uterus and chronic endometritis, is by no means a good one. It should be rather compared to a large flesh wound, as an amputation or compound fracture.

Kew.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF THROMBOSIS OF THE CEREBRAL SINUSES FOLLOWING OTORRHŒA; REMARKS.

(Under the care of Dr. TIRARD.)

CASES of purulent thrombosis following otorrhœa are sufficiently common, and do not as a rule present very much difficulty in diagnosis. The history is usually sufficiently definite, and the symptoms are equally clearly marked. In the following case, however, it will be seen that there were many circumstances tending to render the diagnosis uncertain in addition to the youth of the patient. The possibility of the otorrhœa being an important factor was frequently discussed, but the absence of any pain or tenderness over the mastoid processes appeared to contra-indicate chances of success from any operative measures. For the notes of the case we are indebted to Dr. C. H. East, Sambrooke Medical Registrar.

J. B——, aged four years, was admitted into Twining ward on Aug. 25th, 1889, under the care of Dr. Tirard. The family history is unimportant. The patient has had no previous illness, and has always been a healthy child until three months ago, when a slight discharge was noticed from the left ear. Three weeks since the child had measles at the same time as two other members of the family. The rash was not well marked. From that time the patient lost flesh, and began to get very weak. On Wednesday, Aug. 21st, he had a fit, was convulsed all over, but the left arm was most affected. Since then he has had fits frequently. For the past few days he has not spoken, and has taken little notice of his friends. On admission, there was marked emaciation; his tongue was foul, and teeth covered with sordes; bowels constipated. He seems to be in a semi-conscious state, does not cry out, or appear to be in any pain. He has occasional convulsions, in which the left arm is chiefly affected. There is no drawing of the face, the pupils are equal and react to light, there is no squinting, no retraction of head, and no tenderness. The patellar reflexes are present and equal, the plantar are well marked. There is no anæsthesia or analgesia. Tache cérébrale can easily be shown. There is a purulent discharge from the left ear. The urine contains a trace of albumen with a deposit of urates.

Aug. 26th.—During the night there were several convulsions, most marked on the left side, but on one occasion both sides were equally affected.

27th.—The patient was frequently convulsed between 4 and 8 A.M. His temperature rose steadily.

28th.—To-day he has taken more notice of surrounding objects. The return of consciousness occurred with surprising suddenness. The child had been thoroughly examined during the afternoon visit, and the existence of tache &c. confirmed, and, in spite of the necessary manipulation, had been lying with his eyes half open, and giving no signs of intelligence; when, as he was being left, all at once he opened his eyes widely, and calmly looked about. On returning to the bedside, the child was found to follow an object with his eyes when it was moved in front of his face. Trembling and rigidity of his right arm were noticed; at the same time the wrist and fingers were strongly flexed. Examination of the chest showed dulness and crepitation over the base of the left lung.

During the 29th there were several attacks of convulsions.

30th.—More convulsions during the night, the left side being still chiefly affected. There was also retention of urine.

On the 31st the mouth was drawn to the left side, tongue tremulous, eyes turned up, and flexion of right wrist; during the night there were more convulsions. Tremulousness of the left hand was noticed, the trembling being most marked when the hand was raised; it even then resembled the oscillations of paralysis agitans rather than the wide jerking movements of chorea. When the child was lying undisturbed, however, these tremulous motions ceased; they reappeared whenever he was suddenly roused, but became exaggerated when the limb was raised, and were then accompanied by tremulous movements of the face. Owing to the high temperature (105·6°) at 12 noon, the patient was sponged, bringing down the temperature two degrees.

Sept. 1st.—The child was again sponged, and his temperature reduced from 104·5° to 101·8°.

2nd.—Sponging again resorted to; temperature reduced from 105° to 102°. The patient is now getting very noisy.

3rd.—Coarse crepitation was heard over both bases, and harsh breathing was noticed at both apices. Still very tremulous, and both arms are rigid.

5th.—Sponged at 3 A.M., bringing the temperature down from 105·8° to 104·5°; pulse irregular.

6th.—The patient moans a good deal; the eyes are turned up, the arms and hands are flexed and rigid, and the face is flushed at times.

7th.—Passed a better night; not so convulsed, and not flushed in the morning. Coarse crepitation over lower two-thirds of both lungs, with loss of respiratory murmur, and crepitation at both apices were noticed to-day.

9th.—Takes food badly, sick occasionally, and moans a good deal. Hands and arms are flexed and rigid, there is no squint, and the abdomen is not retracted.

10th.—The temperature at 9 P.M. was 106·5°. Cried all night. Small, hard masses were felt in the lower part of the left side of the abdomen.

11th.—The patient was convulsed a good deal, slept badly, and was sick twice. The pupils are contracted, but equal.

13th.—Pulse feeble; slept badly. Lumps still felt in the abdomen and also the edge of the liver. The state of the lungs is unchanged.

[1] Otto Spiegelberg: Text-book of Midwifery, New Syd. Soc., 1888.

14th.—The general condition is worse. Temperature more regular.

At 9 A.M. on the 15th the temperature rose to 106°, and at 9.20 death took place.

The post-mortem showed thrombosis of the cerebral sinuses. There were numerous small abscesses in the lungs, apparently from infarctions. The brain itself was normal. The longitudinal and lateral sinuses contained well-marked decolourised thrombi. In the latter they were soft and purulent looking; in the former firm. There was pus in the left tympanum and in the mastoid sinuses; the membrana tympani was not perforated, and there was no necrosis of the petrous bone.

Remarks by Dr. TIRARD.—When the child was first seen, although the diagnosis was obscure, it appeared to lie between tubercular meningitis and some meningeal irritation consecutive to the otorrhœa. It was noted, however, that the discharge from the ear had preceded the measles, and that the symptoms had commenced with a fit after the child had been gradually failing. In favour of tubercular meningitis stood the history of wasting, fits, and measles; the symptoms, however, were rather against this and in favour of some more acute form of irritation. The freedom of the discharge from the ear formed an element difficult to reconcile with secondary infection from that source until the occurrence of the pneumonia. The post-mortem appearances showed the correctness of this hypothesis. That the membrana tympani was not found to be perforated, although pus was present in both the external and middle ear, is worthy of note. Throughout it was curious there were not more indications of pain.

ANCOATS HOSPITAL.

CARCINOMA UTERI; SUPRA-VAGINAL HYSTERECTOMY; RECOVERY; REMARKS.

(Under the care of Mr. E. STANMORE BISHOP.)

WITH such an operation as hysterectomy, every case, though in itself of no great importance, possesses an interest above that of many others, inasmuch as the relative merits of certain details in the *technique* required may still be considered *sub judice*. The general opinion may perhaps be taken as fairly settled in favour of the supra-vaginal or Schroeder's operation, as against the abdominal or Freund's. Various tables of statistics exist which apparently show conclusively that the patient has a far better chance of life with the former; whilst, *a priori*, one would consider that the removal of a cancerous mass through the peritoneal cavity would be associated with great risk of infection of that membrane by carcinomatous cells which might be dislodged in transit, and thereby the chances of recurrence in other parts be increased. In the earlier operations this advantage was not obtained, as the uterus, after separating it from bladder and rectum, was inverted, the fundus being retroverted through the posterior opening, and consequently the ulcerated surface was directed upwards into the peritoneal cavity. Richelot in 1887 showed that this manœuvre was not necessary,[1] as also Leopold of Dresden,[2] and in 1888 Professor Sinclair[3] described six cases, in two of which the older method was followed, and in the four later ones the uterus was removed without any such inversion. In the present case no inversion was attempted, nor did it appear that such a proceeding would have done anything but add to the difficulties to be encountered.

M. G——, aged forty-two; married. Has had six children, two of whom were stillborn—the first and the last. Has always had easy labours, attended by a midwife, and has quickly recovered after each. Her father she does not remember; he went to America. Mother died of bronchitis, aged sixty. Two brothers, both dead; one, aged forty-three, died of pleurisy; the other, aged twenty-three, of phthisis. One sister living, aged forty-seven, in good health. No one in her family or any of her relatives have had cancer to her knowledge. Had perfectly good health until the middle of February, 1888. Menstruation had stopped for three months, and as a severe flooding then came on, with much pain, she considered that she had a miscarriage, in which opinion she was confirmed by the midwife; but no substance ever came away. She has always felt ill since, and from that time has been irregular as to menses—sometimes once in three weeks, sometimes six weeks. From last June the discharge has been continuous, red, slimy, and foul-smelling. Was losing flesh; always weary and sick. The sickness and retching came on every morning, with bringing up of sour fluid. Pain also began about June, chiefly over the sacrum, at first intermittent, but latterly much more frequent. The pain was mainly localised about the sacrum and hypogastrium; none during urination or defecation, but latterly she had been more costive.

Present condition.—There is a constant discharge of dirty, blood-stained, foul-smelling fluid from the vagina, with nearly constant and intense pain, chiefly in the back, but spreading down the thighs. With the speculum a cauliflower growth is seen, filling the upper third of the vagina and bleeding on touch. It can be defined as springing from the os uteri and confined to it, but its upper limit cannot be seen or felt. The uterus is movable bimanually, not freely. There is no fixation to bladder or rectum, and the vaginal wall is smooth and apparently healthy. There is a trace of albumen in the urine. She says that for the last two days she has had some aching after micturition. The patient is dark, slight, 4 ft. 10 in. high, weight, three years since, 6 st. 7 lb. The diagnosis was epithelioma springing from the cervix uteri.

On Oct. 7th chloroform was given by Mr. Duckett and Prof. Hare, and Mr. Boycott assisted. The pulpy growth projecting from the os was first scraped away with Volkmann's spoon, and then it was seen that it was continued high up the canal. When all within reach had been cleared away but little was left of the cervical neck except the outer mucous membrane. Hæmorrhage was free, but was easily kept under control by irrigation with hot saline solution—irrigation with which was kept up throughout. The os was then temporarily plugged with sponge. The uterus was pushed well down from the front, and a fair hold obtained by means of a strong silk ligature passed through the walls of the uterus, there not being enough tissue left for the vulsellum to obtain a grip. The mucous membrane was divided all round the os, and the recto-vaginal septum opened by scissors. As soon as the finger could be felt to enter the peritoneum the opening was sufficiently enlarged, and a soft sponge mounted on wire was passed in behind the uterus. The bladder was next carefully separated from the uterus by the finger and scissors, and the vesico-uterine fold of the peritoneum opened. With care the opening was enlarged until only the two broad ligaments were undivided. Another sponge, mounted on wire, was pushed through this opening. The left broad ligament was then tied and divided. In drawing down the uterus the right ligament began to tear, the uterus to peel off from the peritoneum covering it, which remained attached to the right side and was left. For some moments there was sharp hæmorrhage. The patient became collapsed and the pulse thin and weak. Hot flushing with saline solution improved the pulse, and a large Spencer Wells' compression forceps arrested the bleeding. The process of tying and division was again commenced, but the ligatures tore out, and, finally, the uterus tore away completely from its attachments on the right side. Two veins which bled in consequence were clamped by a large Spencer Wells' forceps, which was left on, the whole flushed again with hot saline solution, and the cavity packed with iodoform gauze. A self-retaining catheter was placed in the bladder and the vulva surrounded by salicylic wool. After the operation there was so much shock that the patient was left on the table for a few hours, well covered with blankets, and placed before a good fire. Ether was also twice injected. She was then placed in bed. The operation lasted two hours and a half. One ounce of beef-tea and half an ounce of brandy were injected per rectum, and repeated every two hours. At 3 P.M. collapse was still very marked. Temperature 97·8°; respiration 38. At 6 P.M. there was an improvement. Temperature 98·8°; the pulse was stronger, 120. At 9 P.M. there has been very slight chloroform sickness. Collapse passing off; no pain, but slight smarting. Has been dozing. Pulse is fuller, not wiry. Urine drawn off by catheter. To have one grain of opium in a pill, and half a grain to be repeated every two hours. 12 P.M.: Pulse 116, improving both in volume and tone. Nothing but ice and soda-water given by the mouth.

Oct. 8th.—1.20 A.M.: Essence of beef, half a teaspoonful, by mouth; repeated 2.50 A.M.; very sick afterwards.

[1] Nouvelles Archives d'Obstétrique et de Gynécologie, Sept. 1887.
[2] Archiv für Gynæcologie, Bd. xxx., Heft 3. [3] Med. Chron., vol. vii.

4.40 A.M.: Again very sick; has only slept a few minutes at a time. 6.30 A.M.: Has slept since 5 A.M. 7.20 A.M.: Slight vomiting. 10 A.M.: Took a quarter of a teaspoonful of essence of beef; feels much better; temperature 99·2°; pulse 116; respiration 24. 11 A.M.: Has had half a cup of tea, which was followed by slight vomiting of brown and flocculent material. 11.30 A.M.: Half a drachm of sulphonal given; slept three-quarters of an hour; opium pills stopped; to wash mouth, which is rather dry, with diluted raspberry vinegar and glycerine and water. 2.15 P.M.: Vomited some bile and mucus. 12 P.M.: Urine quite clear; nutrient enemata are still continued every two hours.

9th.—10.30 A.M.: Complains of no pain and says she is very comfortable; pulse fuller, not wiry; under irrigation with creoline lotion the iodoform plug is removed, also the clamp, causing some smarting, but nothing more; interior of vagina is raw, as though blistered by the hot injection at the time of operation; fresh iodoform strips are introduced around a small drainage-tube; morphia suppository, quarter of a grain, placed in the rectum; as the urine now begins to smell, and is cloudy with mucus, the bladder is washed out with a 5 per cent. solution of boracic acid. 12 A.M.: Complains of some pain over the hypogastrium; half a grain of opium pill to be given every two hours; nutrient enemata to be given every four hours. Temperature 99·8°; pulse 112; respiration 24. 1.30 P.M.: At her urgent request, the patient had a little tea, and at 3 P.M. two tablespoonfuls of cornflour.

10th.—1.40 A.M.: Sick and restless. 4.15 A.M.: Slept from 2.45 to 4 A.M. Half an ounce of Benger's food. Vomited. 4.25 A.M.: Milk and soda-water at short intervals in small quantities. 11.15 A.M.: Tea. 2 P.M.: Opium pills to be given every six hours. 10 P.M.: Has slept well, only waking for two ounces of food at 7 P.M. and now.

11th.—Has slept best part of this day, only waking for food, which she takes well. Nutrient enemata discontinued. Is very comfortable, although once there was a feeling of slight colic. No sickness. Outer wool changed; inner iodoform dressing remains.

12th.—Urine is ammoniacal, so the catheter is removed and the bladder well washed out with boracic solution. The iodoform plug is removed, and the vagina irrigated by hot creoline solution. A small drainage-tube is placed in the canal, and an iodoform pessary. The vulva is plugged by iodoform gauze and covered by salicylic wool. The ligatures are not yet loose. After an enema the bowels were comfortably opened. Patient has no pain except a little during the vesical irrigation. Abdomen is flaccid; tongue slightly furred. She sleeps and eats well. Temperature: 99·2° morning; 98·6° evening; pulse 104; respiration 24

13th.—The bladder was washed out, the vagina irrigated, and another iodoform pessary introduced. The bladder is rather irritable, requiring the catheter every three or four hours. Took one pint of Benger's food during the night and two pints during the day, with half a pint of milk. Has slept at intervals. Is to have fish or chicken and four ounces of wine daily. Temperature normal; pulse 104; respiration 24.

14th.—Vagina and bladder irrigated twice. A quarter of a grain of morphia suppository was ordered, there being a good deal of vesical irritation and some hypogastric pain. Takes food well. Temperature 98·4°; pulse 96; respiration 18.

16th.—Dressed morning and evening, with irrigation as before. No pain, but considerable vesical irritation. Took in twenty-four hours two pints and a quarter of Benger's food, two pints of milk, fish, four ounces of port wine, tea, and bread-and-butter. She was ordered simple enema and $\frac{1}{10}$th of a grain of atropine three times a day.

18th.—All ligatures but two removed. Irrigation and iodoform only once a day. Patient sat up for the first time.

21st.—Examination shows dome-shaped cavity covered by mucous membrane with small red papillæ, soft, on the right side at upper extremity, probably orifice of the Fallopian tube.

22nd.—Catheter no longer required. Urine normal in character and quantity. Last stitches removed.

Nov. 2nd.—Discharged well.

27th.—After slight molimina had a small menstrual red discharge only lasting the day, and followed by no other secretion. No pain after this had commenced.

Dec. 6th.—Is perfectly well and in good spirits. No uneasiness in urination or defecation. Weight 6 st. 10 lb., an increase of 3 lb. on her weight three years ago.

Remarks by Mr. BISHOP.—The case is interesting, first, as showing the ease with which the uterus may be removed by following the modification of Schroeder's operation, introduced by Leopold of Dresden, and emphasised by Professor Sinclair, who was, I believe, the first in England to point out its importance, which consists in the omission of the retroversion of the uterus through the posterior opening. Such a manœuvre certainly was not necessary in this case, and its omission would appear to greatly diminish the risk of infecting the peritoneum by cancerous débris. Secondly, the quick recovery from a state of profound collapse, which has been noted by Emmet and other observers as occurring in supra-vaginal operations, as contrasted with abdominal resections. Thirdly, the occurrence of typical menstruation six weeks after. Mayo Robson, Greathead, and Lawson Tait have also noted cases in which the same phenomena have been observed.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Removal of Upper Extremity for Osteo-chondroma.—Mechanism of Suspension in Locomotor Ataxy.

AN ordinary meeeting of this Society was held on Jan. 14th, the President, Sir Edward Sieveking, in the chair.

The PRESIDENT announced that a communication had been received from the builders stating that the new meeting room would be ready for occupation in about a fortnight's time, and the resident librarian hoped to have the books arranged ready for reference by a fortnight after that date.

Mr. THOMAS F. CHAVASSE read a paper on Successful Removal of the entire Upper Extremity for Osteo-chondroma. The patient, a male aged forty, was admitted into the General Hospital, Birmingham, in January, 1889, for a large ossifying enchondroma of ten years' duration growing from the upper portion of the right humerus. The operation performed was resection of the middle third of the clavicle, ligation of the first part of the axillary vessels with carbolised silk, the formation of oval skin flaps, and removal of the remaining outer third of the clavicle, the scapula, and arm *en masse*. Secondary hæmorrhage, occurring on the seventeenth day, necessitated ligature of the subclavian artery in the second part of its course. The patient recovered, and is still living. The tumour itself after removal weighed 18 lb. Attention was directed to the systematic method of removal of the entire upper extremity advocated by M. Paul Berger, and to the hæmorrhage and shock occurring at the time of and after the operation. A tabulated list of twenty-nine cases in which similar operations had been performed was presented. A cast of the limb in its entirety, prepared after his own method by Mr. Charles Cathcart, a portion of the original tumour showing its structure and attachment to the humerus, and photographs of the patient before and after the operation were exhibited.—Mr. BOWREMAN JESSETT related a somewhat similar case which had been under his own care. The patient, a man aged twenty-two, had had amputation at the shoulder-joint performed for sarcoma of the humerus. Three months later a recurrence took place in the cicatrix, and this was removed, the growth being found to be slightly adherent to the scapula and the tissues about it. A second recurrence was found five weeks later, and then the scapula and outer half of the clavicle were removed, an incision being made along the clavicle to the acromion, and another from this point along the spine of the scapula. The flaps thus formed were dissected up, the clavicle divided, and, a V-shaped incision being made on each side of the old wound, the skin and subjacent tissues were reflected and the scapula removed. The subclavian artery was ligatured, comparatively little blood was lost, and the patient made a good recovery. The growth was a myeloid sarcoma.—Mr. HEATH said it was important to distinguish between those cases in which the scapula had been removed with and those without ablation of the upper extremity. He himself had once removed the entire upper limb. He considered that removal of part of the clavicle complicated the operation, without offering compensatory advantages. It was impossible to lay down a set

order for operating in every case, for the size of the tumour and the extent of its connexions varied very much. He thought that there was an advantage in getting early command of the main vessels. In his own case he amputated first at the shoulder-joint, then secured the vessels, and subsequently removed the scapula. For the arrest of the secondary hæmorrhage Mr. Chavasse did not cut down upon and tie the subclavian artery in the second part of its course, but he simply followed the artery up from the wound as high as he could, and then secured it behind the scalenus anticus.—Mr. BARWELL also considered it an unnecessary complication to remove the central part of the clavicle. Where possible he would commence the operation in front, over the clavicle, and secure the third part of the subclavian artery; at the same time one could examine the condition of the supra-clavicular glands, and remove them if necessary. He would not at that stage tie the subclavian vein.—Mr. HULKE asked why Mr. Chavasse removed the shoulder-blade, for the tumour seemed of extremely slow growth, and there was free movement at the shoulder-joint. He did not gather, so far as clinical evidence went, that there was involvement of the scapula or clavicle or their muscles.—Mr. ADAMS said the microscopy of the case clearly proved it to be enchondroma, and he asked whether it had been diagnosed as such, or whether it was regarded as an osteo-sarcoma. He referred to a very similar case which he had seen under Mr. Solly's care at St. Thomas's Hospital when he was a dresser there. It attained such a large size that it was considered unwise to interfere with it. He likewise alluded to the differences observable between ulcerations of benign and malignant growths.—Mr. CHAVASSE, in reply, said his paper was an effort to secure a wider recognition of the necessity of adopting a systematic method in removing the upper extremity. He thought it wise to secure the subclavian vein as well as the artery, for in one case considerable trouble had followed the entrance of air into the vein. He removed the scapula because he found it impossible to get an adequate skin covering for the flap without doing so.

A paper on the Mechanism of Suspension in Locomotor Ataxy was then communicated by Dr. JAMES CAGNEY. He attempted in it to establish the *modus medendi* of suspension and to determine the best method of effecting it. It opposed the twofold assumption that it was possible to stretch the spinal cord or the nerve roots by suspending the weight of the body from the head or elsewhere, and that such a stretching if it were possible could produce any change in the lesion of tabes. The paper included results of measurements and observations made on the living subject before and during suspension, and on the dead body under various conditions. These tended to show that in all cases alike the effect of suspension was to cause a shortening of the distance between the first dorsal and the last lumbar spines. There was usually an elongation of this surface in the cervical region, which, however, was less than the shortening elsewhere. Measurements of the dead body showed that at the same time the anterior surface of the vertrebral column was considerably elongated throughout, slightly in the neck, and most in the dorsal region, but it was contracted or unchanged in the lumbar. Thus the effect of suspension would be to straighten out the vertebral curves, and this in a different manner in the different regions. The effect upon the spinal cord and its membranes would vary in each case according as they lay in the concavity or on the convexity of a curve, and with the manner in which the curve tended to straighten under the influence of the body's weight. An important distinction was to be made between the cord and its membranes. Relaxation of the membranes implied relaxation of the cord, but tension of the former did not necessarily imply stretching of the cord. The facts cited are held to prove (1) that a total shortening of the spinal canal was obtained in suspension; (2) that in the lumbar region the cord was unaffected or slightly relaxed, in the cervical region the membranes were somewhat stretched; (3) the consideration of the dorsal region was of chief importance, because the dorsal curve was the most extensive and because the lesion in tabes was, for the most part, contained within it. Here the cord lay upon the convexity of the curve, and by stretching this post mortem the bodies were separated anteriorly, their posterior borders were pressed together, while the neural arches and spinous processes were approximated. Since, however, the neural arches enclosed the spinal cord, the latter was also shortened. This effect was produced by gravity, and it was further aided by muscular tension during life. Measurements showed that the shortening of the line along the spinous processes of the vertebræ was greater in the living body than in the dead. It was inferred that suspension caused a relaxation, not a stretching of the spinal cord, and that such a relaxation might affect a sclerosis in two ways—(1) mechanically, by breaking down adhesions; (2) by removing impediment to the circulation. The splanchnics were the only nerve structures which could be seen to stretch in the process, and certain of the accidents which attended on suspension were referred to this cause. It was contended also that muscular tension was an effective force, and that a rational method should be based on its application. Suspension from the head was admittedly dangerous and inconvenient; according to the views submitted here it was also useless. The best results might be expected from suspension from the axillæ alone or from suitable gymnastic movements. The discussion on this paper was adjourned till the next meeting of the Society, on Jan. 28th.

CLINICAL SOCIETY OF LONDON.

Traumatic Aneurysm of Back.—Hæmorrhagic Varicella.—Desquamation in Enteric Fever.

THE annual meeting of this Society was held on Jan. 10th, the President, Mr. Christopher Heath, in the chair.

Mr. W. G. SPENCER communicated the details of a case of Traumatic Aneurysm of the Back following a fracture dislocation of the spine in the dorso-lumbar region and presumably connected with the lumbar arteries. The patient was a man aged fifty-eight, who met with the injury to the back about a year and a half before. An aneurysm had developed on either side of the spine at the level of the injury. As a result of the injury the eleventh and twelfth dorsal and the first lumbar spines formed an angular prominence. He complained of constant burning pain across the left loin and down the left leg to the knee. There were also an exaggerated patellar reflex and partial anæsthesia of the skin of both feet. He had no symptom of vascular troubles, and was not aware of them. The heart was affected with aortic disease, the pulse was regurgitant in character, the arteries, especially the brachials, were very tortuous, and there was a small stationary aneurysm at the bifurcation of the left carotid. On either side of the spine was a pulsating expansile swelling, extending from the level of the tenth rib downwards for four inches, and for about two inches outside the outer border of the erector spinæ. The swellings were approximately symmetrical. No bruit could at first be heard. During three months there was a slight increase, so that the tumour extended about six inches from the spine on the left and four inches on the right. Later, a loud bruit became audible on the left. No abdominal tumour or any pulsation could be felt; the iliacs and the circulation in the lower limbs were perfectly normal. It seemed, therefore, that any aneurysm of the aorta, renal or splenic arteries, might be excluded. There were left the lumbar arteries. If the aneurysm arose from the lumbar arteries, the extension backwards might be explained by there being a layer of lumbar fascia in front, separating the aneurysm from the abdomen. It was mentioned that no aneurysms of the lumbar arteries were recorded, and *a priori* their anatomical position rendered an aneurysm unlikely to occur. Still, the most probable diagnosis appeared to be an aneurysm, hour-glass in shape, having the long axis horizontal, connected with the lumbar arteries on both sides, the two sides being joined by a narrow neck in front of the spine. The patient was still suffering much pain. This appeared to be chiefly due to the fracture, and not to the aneurysm. It was probable that removal of the laminæ of the displaced vertebræ might ease his pain. But this operation was contraindicated by the presence of a pulsating swelling on either side of the spine and the other vascular troubles.—The PRESIDENT said the difficulty in accepting the case as put forward was the greatly disproportionate size of the lumbar arteries, they were so very small to form so large an aneurysm. He did not know of a single instance in which two arteries contributed to form an aneurysm in the way suggested. He thought it might be a bulge of the aorta posteriorly, as the result of strain, forming a sac pointing backward. A fusiform dilatation of the aorta was very difficult to feel from the front. With regard to treatment, he thought the wiser plan was to do nothing.—Mr. MAKINS suggested that it was a collection of blood behind the aorta, forming a fluid hæmatoma, the pulsation of the

aorta being communicated to it. If connected with a lumbar artery, he supposed it was a hæmatoma into which the artery opened. He asked if it might not be connected with the spinal meninges. If any treatment were required he should prefer galvano-puncture.—Mr. MORGAN thought it might be an abscess around the injured bone into which a vessel had opened. He referred to the case of a young man who sustained a compound fracture of the lower jaw, to which an inter-dental splint was applied. A swelling formed on the outer side of the jaw; it was punctured, and pus was evacuated together with arterial blood. It appeared that an artery opened into the abscess, for bleeding continued, and the carotid had to be tied. He ultimately recovered, though temporary hemiplegia followed the carotid ligature. He thought that perhaps the case narrated by Mr. Spencer was one of the same kind.—Mr. SPENCER, in reply, said he thought that the bulging posteriorly was against aortic aneurysm. He considered it might be hæmatoma, but as the laminæ were intact he had excluded a meningeal origin. It was a simple fracture, and the temperature had not been elevated, both of which facts were against abscess.—Dr. ORD had seen two cases in which aortic aneurysms bulged posteriorly; and Dr. BARLOW also remembered an instance in which an aneurysm of the aorta originating immediately below the diaphragm first became manifest behind.

Dr. ANDREW described two cases of Hæmorrhagic Varicella. One was attended by profuse hæmorrhage from the alimentary canal (hæmatemesis and melæna) and by ecchymoses in the skin. In the other, an instance of varicella gangrenosa, described by Mr. Hutchinson, ulceration took place in the varicella vesicles, with an offensive purulent discharge and general symptoms of septicæmia. The two cases occurred in the course of the same epidemic of varicella in a large school.

Dr. ROLLESTON related a case of Enteric Fever which was attended by desquamation in large flakes in the commencement of the third week. The epidermis of the trunk and thighs came off in large flakes, while that of the hands and feet peeled in small bran-like scales. There was no history pointing to scarlet fever, and there was no evidence of any dermatitis or erythema, which might account for the desquamation of the skin. The interest of the case centred in the diagnosis of enteric fever, which seemed certain, though shaken by evidence which at first sight suggested scarlatina.—Dr. CLAPHAM recently saw a case of typhoid fever characterised by diffuse desquamation. The rash appeared late, and with it large roseolous patches came out over the trunk. In the third week desquamation of large areas of epidermis occurred. This was followed by a relapse lasting a fortnight, but the patient ultimately made a good recovery.

The report of the Council was then read by the retiring Secretary, Mr. R. W. Parker. It was mentioned that an appendix was added to the last volume of the Transactions containing further reports of many of the cases recorded in earlier volumes, and allusion was also made to the satisfactory working of the new arrangements for the exhibition of clinical cases. The financial statement, submitted by the treasurer, Dr. Ord, showed a flourishing condition of the Society's funds. Votes of thanks to the retiring vice-presidents, members of council, and secretary were then carried. The following is a list of office bearers for the ensuing year:—President: Mr. Christopher Heath. Vice-Presidents: Drs. C. Bastian, R. D. Powell, C. T. Williams, and Messrs. H. G. Howse, S. Sibley, A. Willett. Treasurer: Dr. W. M. Ord. Council: Drs. J. Abercrombie, C. E. Beevor, R. L. Bowles, T. Churton, T. C. Fox, A. E. T. Longhurst, S. Mackenzie, T. J. Maclagan, A. Money, I. Owen, P. H. Pye-Smith, E. Diver, and Messrs. W. H. A. Jacobson, J. R. Lunn, M. Morris, R. W. Parker, C. W. M. Moullin, S. F. Murphy, C. J. Symonds, J. K. Thornton. Hon. Secretaries: Dr. T. Barlow and Mr. W. H. Bennett.

MEDICAL SOCIETY OF LONDON.

Croupous Pneumonia.—Nephro-lithotomy.—Partial Nephrectomy.

AN ordinary meeting of this Society was held on Jan. 13th, the President, Dr. Theodore Williams, in the chair.

Dr. CHURTON, of Leeds, read a paper on Croupous Pneumonia. He introduced the subject by quoting the statement of an eminent physician made but a few years ago in a court of law, that "no human being had the slightest notion what was the cause of acute pneumonia." At the present time such a statement was but little less true. Could we really yet account for the complex association of pyrexia, sudden debility of muscles, delirium, disorders of liver and blood, of kidney and skin? Or could we say what circumstances had favoured the occurrence of pneumonia in certain districts during the last year, excessive as compared with former years. Had there been any variation in the virulence of the pneumonia germ? and by what means had the disease obtained an entry into the organism? In the present investigation 806 cases were returned by fifty-six medical men, an average of about 14·4 for each practitioner in six months. Five medical men returned blank papers, three practising among the wealthier classes, one at the gaol, and one in mixed practice. At the workhouse infirmary there had been 66 cases. An analysis of 490 cases included 273 men, 106 women, and 111 children (under fifteen). In Dr. Churton's hospital practice 19 cases occurred in men, 1 in a woman, and 2 in children (both young boys). In consultation, of 18 cases 14 were men and 4 women. As regarded diagnosis, though the general aspect of the cases and the series of symptoms were pretty uniform, there was difficulty in some in assigning the actual site of consolidation; this occurred in about 1 case in 7. Fatal cases had been examined in which the entire lower lobe of the lung was solid, with the exception of a shell of parenchyma about three-quarters of an inch in thickness. Irregular distribution of consolidation was indeed common, and in those cases where the position of consolidation was doubtful the clinical features left no doubt as to the nature of the disease, and sooner or later solidification extended sufficiently near to the surface to be recognised, though the signs alone might not have sufficed to establish the diagnosis. Pleurisy was present in 1 in 5 cases on the corresponding side, and in one case membranous effusion occurred on both sides, though one only was affected by pneumonia. In this case, also, there was pericarditis with effusion, suggesting that the poison was capable of disturbing these surfaces as well as the lung tissue. These observations were interesting in relation to the cases of pleuro-pneumonia apparently derived from animals. No very definite conclusions could be drawn with reference to causation; the houses in which cases occurred were not in an insanitary condition. Suspicion fell upon the street gullies, which ventilated the main sewers within four or five feet of the cottage doors, and it seemed certain that some cases of illness had been traced to inspiration of emanations from them. Other causes assigned were fatigue or chill, or both combined, and in a few cases contagion. The mortality varied considerably. One practitioner returned 1 death out of 41 cases, all being of a good class. Another reported 6 deaths out of 35 cases, all occurring in working men. Eleven cases sent by mistake to the fever hospital recovered without exception. Of 22 infirmary cases 6 died. Of 18 cases seen in consultation 6 died. The fatal cases included for the most part patients above fifty, and such as were overworked or living under insanitary conditions. Those who suffered in the epidemic are stated to have been either delicate, careworn, or intemperate persons, or such as lived in the least healthy quarters. Among cases which recovered were recorded young patients with mitral stenosis, some patients more than sixty years of age, and one case suffering in addition from profuse purulent bronchorrhœa. Cases complicated with granular kidney were peculiarly fatal. The immediate cause of death is reported in most cases to have been cardiac failure, but in eleven cases it is stated to have been respiratory failure after extreme rapidity of breathing. Necropsies revealed considerable œdema of the otherwise healthy portions of lung—a condition which is known to be rapidly fatal in renal disease, and which may also be regarded as the first stage of pneumonia, patchy areas of pneumonic lung frequently appearing in the midst of œdema. So far as could be judged from the symptoms and signs, very rapid respiration, in which the chest heaved sixty or seventy or even eighty times in a minute, appeared independently of any special need, only a small portion of lung being consolidated, air entering freely and the circulation continuing at a moderate rate. This rapidity of breathing was relieved by opium cautiously administered. The best remedies for the cardiac failure appeared to be steel, quinine, nux vomica, and pure brandy, given freely in divided doses. The chief objects of the communication were: (1) To elicit more accurate information as to the exact cause or causes of death in pneumonia; (2) to invite closer attention to the phenomena attending death from pneumonia; (3) to

emphasise the great simplicity of the discoverable anatomical facts of pneumonia; and (4) to suggest the probability that a drug or a method of treatment might hereafter be found which would (in the earlier stages at least) do for the pneumonic exudation and for the tissues which by this disorder allow it what salicine or salicylates now did for the rheumatic exudation and the tissues permitting it.—The PRESIDENT said opinions had changed in recent years with regard to the fatality and location of the disease. The severe onset, definite course, and complete subsidence of the disorder, without any trace being afterwards discoverable, pointed to its being a blood rather than a lung malady. Its origin must be either nervous or toxic. He leaned to the latter opinion, though in some most typical cases he had been unable to discover the micrococcus. His experience showed that the tendency to death was by cardiac failure; but, with reference to stimulants, it was necessary to issue a warning against exhausting the heart by over-stimulation.—Dr. MAGUIRE said it was of great importance to distinguish between sporadic and epidemic pneumonia; numbers of the latter cases showed great similarity, and the disease appeared to spread from one to another in a manner indicating contagious action. The micrococcus of Friedländer could be found in most cases when properly sought for. In the course of two epidemics the organism was found in all cases. Once it was obtained by means of a syringe from the edge of the diseased area of lung during life, and recognised after death in the kidney. It was not of much use to search in the sputum alone, as certain micro-organisms occurring therein were morphologically indistinguishable from the pneumonococcus proper. He agreed that death resulted from cardiac failure. In pneumonia following influenza, and in the sporadic disease, pneumonococci were rarely found in large numbers. The facts that the micro-organism was not found in all cases, and that certain micrococci indistinguishable in appearance occurred in the sputum, were fatal objections to employing the germ as a test for the disease.—Dr. FINLAY thought that the tendency was rather to over- than under-stimulate cases of pneumonia. Many treated without stimulants appeared to do well. Even when stimulants were really required, they should be carefully discontinued early in convalescence. On the whole, he thought they did more harm than good.—Dr. LITTLE mentioned some cases of epidemic pneumonia in which he had used strychnine as a cardiac tonic with good effect. He suggested also that change of posture, and especially the assumption of a semi-erect sitting position, was beneficial in relieving the dyspnœa. The application of leeches in some cases had afforded considerable relief, and in some the removal of blood seemed to have been followed by an early crisis. With regard to sanitation, it was noticeable that many fatal cases had occurred in houses which had cesspools beneath them. The author, in reply, admitted that pneumonia seemed in nowise a lung disease. The structure of the alveolus was really unaltered by the exudation, hardly more so than in ordinary œdema, which was often accompanied by patches of pneumonia. Crises occurred in nearly all the cases he referred to. In the few which terminated by lysis, the clinical features of pneumonia were well marked. In some individuals the onset was remarkably sudden, following exposure to a cold atmosphere, which amounted almost to a "cold-stroke." The disappearance of physical signs was also most complete, no trace being discoverable after from ten to fourteen days. One of the features of the heart failure was the marked tendency of the blood to accumulate in the veins, but little being projected with each pulse beat.

Mr. KEETLEY read notes of four Renal Cases—three of nephro-lithotomy, and one of partial removal by lumbar incision of the lower fourth of a kidney crushed in two by a waggon wheel. 1. A girl aged fourteen, with symptoms of suppuration in the left kidney, had that organ opened, drained, and two small branched calculi removed. After rather prolonged treatment she recovered completely, and was exhibited. 2. A gentleman, aged forty-four, had symptoms of renal calculus all his life; when a child he had his bladder sounded by Mr. Solly. For thirty years he had not passed twenty-four consecutive hours without pain, and was accustomed to take his rest piecemeal. A calculus in the right kidney having been diagnosed, nephro-lithotomy was performed by Mr. Keetley, and 150 calculi removed from the right kidney—perhaps the largest number recorded as having been taken away during life. A period of depression after operation was treated by oxygen inhalation. Convalescence was rapid and uninterrupted. The patient attended the meeting. He has been well and free from pain ever since the operation, fourteen months ago. A large rough calculus, in shape like the last joint of a thumb, with a disc-shaped base, had blocked the way into the ureter for the numerous smooth calculi which formed and rolled on each other behind it. 3. A young man was crushed by a waggon wheel, which did not pass over him. The ninth, tenth, and eleventh left ribs were broken. There was blood in the urine. Five or six hours after the accident he showed signs of serious recurrent hæmorrhage in the loin. Through an incision a mass of blood-clot was scooped out, and also the separated lower end of the kidney, one bleeding point compressed with forceps, and a deeper one with sponge pressure. The forceps were removed at the end of the operation, the sponges in twelve hours. Convalescence was rapid. No urinary fistula and no hydro-nephrosis resulted. The patient was shown. 4. A young woman aged twenty-five, with greatly enlarged, hard, and thickened right kidney abnormally movable, and much pus in urine. When first placed under ether there were alarming symptoms, and the operation was deferred. Afterwards the kidney was exposed, palpated, and searched with a needle under cocaine used locally. Ultimately, nephro-lithotomy was performed and a calculus removed. The pain disappeared at once. The kidney was contracting and the appetite returning, but there was still pus in the urine. The calculus (examined by Dr. Thudichum) proved to consist of mixed phosphate and oxalate of lime. The procedure in each of the nephro-lithotomy cases was by lumbar incision, the kidney being opened at its convex border by blunt instruments, the calculi removed, and the wound subsequently washed out with warm sublimate solution (1 in 2000), plugged with iodoform gauze soaked in the same solution, and drained. In answer to Mr. Jessett, Mr. Keetley said that, though the symptoms were relieved, in some cases the remains of the kidney were of little or no value. Where, however, the patient was much exhausted, the entire removal of the organ would be too serious an operation. There was some objection to the too free use of the needle in searching for stone, particularly when the organ was septic; the calculus, also, was not always found by its means. In operating under the local anæsthetic action of cocaine, no pain was complained of except when a nerve trunk was touched or the kidney interfered with, this not having been impregnated with the drug.

OBSTETRICAL SOCIETY OF LONDON.

A MEETING was held on Wednesday, Jan. 8th, A. L. Galabin, M.D., President, in the chair.

The following specimens were exhibited:—Dr. WILLIAM DUNCAN: Uterus with Multiple Fibroids; Diseased Kidneys; from a case where death from cerebral hæmorrhage occurred during the fifth month of pregnancy.—Dr. J. MATTHEWS DUNCAN: Dr. Münchmeyer's Transfusion Apparatus.—Dr. CARTER: (1) Ovarian Cyst, partly Glandular, partly Dermoid; (2) Dermoid of both Ovaries; (3) Lipoma of Left Labium Majus.

Should Pregnancy be terminated Prematurely in cases of Phthisis?—Dr. WILLIAM DUNCAN read a memoir on this subject, based upon a case in his own experience. A woman aged twenty-seven had borne two children; both labours had been difficult, and symptoms of phthisis, to which she was already subject, increased during both pregnancies. Her period ceased in August, 1889. Two physicians of authority had seen the patient, and considered that pregnancy, especially if it continued to term, would shorten her life. There was a cavity near the left apex, and the lower part of the left lung and the upper part of the right showed signs of crepitation. The patient was placed in the lithotomy position, the cervical canal rapidly dilated by Hegar's dilators up to No. 22, the fingers inserted, and the fœtus and membranes removed. The uterine mucous membrane was curetted, the cavity irrigated with a hot mercurial douche, and a twenty-grain iodoform bougie was introduced into the uterus and retained there by a glycerine plug passed up to the os uteri. The operation, performed on Sept. 14th, lasted twenty-five minutes. The patient made a good recovery. Dr. Duncan believed that during pregnancy phthisis was not retarded, as was formerly believed, but hastened. This was especially the case in women between twenty and thirty years of age. When phthisis was progressive in early pregnancy, there could in his mind be no question but that the proper course to pursue, after careful consideration of the case in consultation, was to empty the uterus of its contents.

This could safely be done in the manner indicated by the author. Even when the phthisis was stationary, it was safer to empty the uterus at once than to let the pregnancy proceed to term. When the patient was seen for the first time late in pregnancy, the child being viable, the case was different. Dr. Duncan would be guided, under the circumstances, by the condition of the lungs. If phthisis were stationary, though well marked, he would wait till full term had nearly arrived; and then, in order to save the patient all suffering and the strain on her system consequent on natural delivery, he would dilate the cervix with graduated bougies, followed by the hydrostatic dilators, until it was sufficiently expanded to permit of delivery by the forceps or version, as the case indicated. Full antiseptic precautions would be taken. If, however, the pulmonary disease were markedly advancing, the interests of the mother and child would be best served by effecting delivery in the same manner without delay, instead of waiting until the full term had been reached.—Dr. CULLINGWORTH observed that Dr. W. Duncan's patient had been under his own care. A physician had recommended that abortion should be induced, but that gentleman believed in a new treatment for the cure of pulmonary tuberculosis by inhalation of heated air. Dr. Cullingworth had not so much faith in that treatment, nor did he think that the chances of life in a pregnant phthisical woman were improved by the induction of abortion. He therefore declined to undertake or acquiesce in so serious a step. He was glad that Dr. W. Duncan had brought the subject before the Society.—Dr. HERMAN thought that if Dr. William Duncan's view, that the existence of pregnancy hastened a fatal termination in cases of phthisis, were true, the induction of abortion would be proper treatment. Unfortunately, Dr. Duncan had not brought forward any scientific or sound statistical evidence in support of his doctrine.—Dr. PLAYFAIR thought that the new line of treatment suggested by Dr. William Duncan's case was quite unjustifiable when phthisis was incipient, and liable to serious abuse. Dr. Duncan had very properly held a consultation before operating, and now openly submitted his case to the criticism of the Society; but others might dispense with such safeguards, and shelter themselves under the authority of Dr. Duncan's name. When phthisis was advanced the matter was different; but there were not sufficient grounds for concluding that the new treatment would materially check or alter the progress of the disease. Moreover, it was an open question whether, the mother being already the subject of advanced organic disease, the interests of the child should not be considered. On the whole, therefore, while he admitted the force of some of Dr. Duncan's arguments, he believed that his case was a dangerous precedent, and that the course taken by him would neither be generally adopted nor followed.—Dr. PRIESTLEY, in a paper on the Induction of Abortion as a Therapeutic Measure,[1] had laid down as a rule that abortion was only a legitimate operation when the life of the mother was imperilled by the continuance of pregnancy, and that emptying the uterus presented itself as the only alternative to save the patient. He could not express any opinion on the present case; but it was hard to conceive any circumstances in which phthisis, without some other complication, would justify the induction of abortion. Since Cullen had first noted that phthisis was retarded during gestation, nobody had contradicted his statement until very recently, when it had been asserted that the disease progressed as usual during pregnancy. If the latter theory were true, Dr. Priestley still failed to see how the induction of abortion could be preferable to leaving the pregnancy to go on till term.—Dr. CHAMPNEYS commented upon the physiological and ethical aspects of the case. What good abortion did, what harm pregnancy might do, was unknown. In diseases like cancer, and perhaps phthisis, where the mother's life was practically forfeited, her claims, as against those of the fœtus, deserved less attention. In diseases like eclampsia, which depended on pregnancy, and would probably cease after pregnancy, it was recognised as a proper proceeding to procure abortion. To procure abortion on the grounds that the child would be unhealthy was very questionable. As phthisical women were often very prolific, Dr. Champneys asked how many times Dr. William Duncan was prepared to procure abortion, as he was logically bound to do, if he were right on this occasion, in this or any similar case. Dr. Champneys also failed to see any reason for *accouchement rapide* in this case.—Dr. J. MATTHEWS DUNCAN said that it was not established that pregnancy injuriously affected the progress of phthisis. Consumptives often bore fine healthy children, and the danger of the fœtus being infected by tubercle in the mother's system was apparently not great. If removal of the fœtus were decided on, he could not prefer the rapid method of delivery.—Dr. AMAND ROUTH noticed that phthisis, more or less stationary during pregnancy, often advanced rapidly during lactation. It was lactation, therefore, that ought to be suppressed; only in some cases where, late in pregnancy, the child being viable, dyspnœa was urgent, could the induction of labour be justifiable.—Dr. LEITH NAPIER thought that a waiting policy was the wisest. In his experience, a very advanced case of phthisis had improved during pregnancy and recovered from labour at term, whilst abortion in phthisis was a grave matter.—Dr. JAMISON did not agree with the author of the paper as to the justifiability of the practice therein recommended. The cure of tubercular disease by hot inhalations after labour was not in accordance with the every-day experience of phthisis. The children of phthisical mothers did not necessarily die soon after birth: on the contrary, they were often quite healthy, and remained free from consumption throughout life. Pregnancy, according to all but a very few authorities, did not accelerate the progress of phthisis; indeed, Dr. Jamison believed that it retarded the disease.—Dr. ABRAHAM WALLACE held that the subject of phthisis in relation to pregnancy lay on the borderland of pure medicine and midwifery, and ought not to be approached from the standpoint of the obstetric specialist alone, but required to be considered in all its aspects.—Dr. WILLIAM DUNCAN, in reply, said he was very glad the question had evoked such an active discussion, but at the same time he could not quite agree with the opinions expressed by the various speakers. He must dissent from the assertion that "pregnancy should not be terminated unless it threatened the patient's life," and he mentioned the case of a patient in the Middlesex Hospital who last year had severe puerperal eclampsia, and recently, being five months pregnant, was readmitted with acute nephritis, double optic neuritis, and retinal hæmorrhages. The ophthalmic surgeon having said that if the pregnancy were allowed to go on the patient would probably become blind, Dr. Duncan had no hesitation in emptying the uterus. He thought the induction of abortion gave a distinct advantage by doing away with the dangers connected with parturition and the puerperium. He did not, of course, mean that all cases of phthisis complicating pregnancy called for interference, but that each case must be judged on its merits, and after careful consultation with another physician, who should share the responsibility. Neither did he mean that, having once terminated pregnancy in a given case, he would be justified in pursuing the same treatment if impregnation subsequently took place; on the contrary, if the patient neglected the warning given her, she (being entitled to choose) took the responsibility, and must submit to the risks. Dr. Duncan regretted he could give no statistics either proving that life is shortened in these cases or as showing the effect of pregnancy on a phthisical woman, but he was one of those who did not believe much in statistics. His statements on these points are those given in all the leading works on obstetrics.

Five Cases of Puerperal Eclampsia, especially illustrating the Temperature and Urine in this Disease.—Dr. HERMAN, the author of this communication, described five cases, of which the chief features are as follows:—Case 1. First pregnancy: premonitory symptoms a few hours only before fits; convulsions commencing during first stage of labour at term; not ceasing with delivery; ceasing after morphia; seven fits in all; temperature rising slightly during fits, falling after cessation of fits; diminution in quantity of urine during fits; diuresis after delivery and cessation of fits: urine during fits nearly solid with albumen (much paraglobulin), blood, and casts; rapid disappearance of albumen and blood after delivery; diminished elimination of urea during fits; increased elimination of urea following delivery. Complete recovery. Case 2. Second pregnancy: premonitory symptoms three weeks before fits; intra-uterine death of fœtus; fits coming on at eight months' pregnancy; eight fits; fits ceasing after morphia and before delivery; slight pyrexia, continuing four hours after last fit, then abating; polyuria throughout temporarily increased after delivery; urine containing half its bulk of albumen (much paraglobulin); increase of albumen following fits; albumen diminished after delivery, but still persisting even

[1] Trans. Obstet. Soc., vol. xxii., 1880.

months afterwards; diminution of urea elimination during fits; restoration to normal of urea excretion, commencing after cessation of fits; retinitis albuminurica. Case 3. First pregnancy: premonitory symptoms forty-eight hours before onset of fits at five months' pregnancy; about sixteen fits; spontaneous premature delivery; urine solid with albumen (largely paraglobulin); cessation of fits, fall of temperature, and diminution in albuminuria following administration of morphia and preceding delivery; diminution of urine and of urea excretion (both absolute and in proportion to the urine) during period of fits; re-establishment of urine and urea excretion commencing after cessation of fits and before delivery; recovery. Case 4. Ninth pregnancy: symptoms a week before fits, at seven months' pregnancy; three days' treatment by milk diet in hospital before fits; retinitis; four fits only; morphia given after second fit; death by coma five hours after last fit; subnormal temperature; fits preceded and accompanied by slightly increased diuresis; albuminuria diminished by rest and milk diet; fits accompanied and followed by increase of albuminuria and hæmaturia; steady diminution in urea percentage preceding fits and continuing till death; absolute urea excretion diminished throughout, but no greater diminution preceding or accompanying fits; no necropsy. Case 5. First pregnancy: symptoms about thirty-six hours before fits, at eight months' pregnancy; intra-uterine death of fœtus; twenty-four fits in all, extending over sixty hours, and ceasing before delivery; delirium for forty-eight hours after fits; slight pyrexia, subsiding before cessation of fits; during period of earlier fits urine solid with albumen and diminished in quantity, but percentage of urea not diminished; increase in quantity of urine and percentage of urea, and diminution of albuminuria before cessation of fits; complete recovery. The author pointed out the differences between the cases themselves and between them and other published cases, and drew the inference that puerperal eclampsia is a disease not having a uniform clinical history any more than a uniform morbid anatomy.—Dr. PRIESTLEY found it difficult to discuss Dr. Herman's important paper in all its bearings. He was struck with the absence of that high temperature, as indicated by the thermometer, which continental writers held to be usually present during the progress of puerperal convulsions. The same foreign authorities noted that, on the other hand, in convulsions the result of general uræmia the temperature fell progressively until death. The question was disputed by Winckel, Charpentier, and others, Dr. Herman's valuable memoir proved that much more was to be learnt, and that puerperal eclampsia had not a uniform clinical history.—Dr. HORROCKS endorsed the last words of Dr. Priestley, and distinguished at least two forms of puerperal eclampsia. In the first variety there was no albuminuria. This form he treated as epilepsy complicating pregnancy, giving large doses of bromide of potassium (in one case ninety grains) by the rectum. In the second form albumen appeared in the urine; the administration of morphia was dangerous in this variety of eclampsia, especially when the uræmic element prevailed. He had found that the temperature rose, as a rule in eclampsia; in some cases he found that it continued to rise for a few hours after death.—Dr. W. S. A. GRIFFITH remarked that there were two points in the clinical history of the nephritis of pregnancy, with or without eclampsia, about which information was much needed. Firstly, in what proportion of cases had there been any evidence of pre-existing nephritis, complicating scarlatina or diphtheria, for instance? Secondly, how many cases died eventually from or with kidney disease? According to what he had learned from Dr. Gee, very many cases did in later life develop symptoms of chronic nephritis. The disease was not so temporary as was generally believed.—The PRESIDENT thought that Bourneville's theory that eclamptic attacks raised, whilst uræmia lowered, the temperature, applied not only to separate cases, but to the different elements in the same case. If, therefore, the uræmic convulsions, as evidenced by diminished secretion of urea, preponderated in proportion to the frequency of the convulsions, it might be expected that the elevation of temperature would be interfered with. He asked if this principle would explain any of the anomalies observed in Dr. Herman's cases. In the President's experience, it was chiefly in untreated cases that very marked elevations of temperature occurred, and chloroform or bleeding especially counteracted it. In one case, untreated until the patient was moribund, he had found the temperature as high as 110°.—In reply, Dr. HERMAN, after referring to disputes amongst foreign authorities, assented to Dr. Horrocks's division of puerperal eclampsia into two forms. The cases where albuminuria was very slight differed from those where the urine almost solidified on boiling. All the cases now related had one feature in common—a diminution in the excretion of urea during the time in which the fits were occurring. These cases, so far as they went, did not support the view that the elevation of temperature was in proportion to the number of the fits. In Case 5, where the fits were the most numerous, the highest temperature was not attained.

EPIDEMIOLOGICAL SOCIETY.

Leprosy.

AT the meeting held on January 8th, Dr. P. S. ABRAHAM presented an analysis of 118 cases of leprosy reported by the assistant-surgeon of the Tarntaran Asylum (Punjab). The particulars were tabulated as to sex, age, variety of disease, its duration, relatives affected, number of progeny, fish diet, and some other details. The proportion of males to females was as 1·7 to 1; the average age of patients 48 years; the mean age of onset 22 years; duration 16·25; percentage of "atrophic" cases 64·4; relatives affected in 32·2 per cent.; progeny of 55 marriages 21; fish "never tasted" in 31 instances, "rarely" eaten in 5, "sometimes" in 42, often in 4. In 4 cases the disease is said to have stopped its progress in 1 since 20 years. Chaulmoogra and gurjun oils are reported to have been of benefit in 2 out of 19 cases. In consequence of the paucity of reports from the other asylums of India, these data cannot be comprehensively contrasted. Our knowledge of the disease would be greatly enhanced if full accounts from every asylum were at definite intervals published on a uniform plan. The present lack of reliable data illustrates the need of a thorough and systematic investigation, such as is likely to be shortly set in motion through the initiation and support of the Damien Committee and of the Colleges.

Dr. ABRAHAM also, on behalf of Dr. J. C. Phillippo of Jamaica, communicated a paper on the Arrest and Cure of Leprosy by the Internal and External use of the Gurjun and Chaulmoogra Oils, and made some remarks upon the subject. Dr. Phillippo, "as one who has had considerable practical acquaintance with the disease," expresses himself as strongly opposed to the fish-diet theory. "It is true," he says, "that more leprosy is to be seen in this than in other countries on the sea coast; but this is, I think, largely due to the fact that the poorer class of sufferers flock to the cities and towns, which are generally there situated, for the sake of the charity to be obtained in these larger centres of population." "That it is both hereditary and contagious" he firmly believes. He considers that there is "some constitutional predisposition," probably "of a strumous character." With regard to the gurjun and chaulmoogra oil remedies, he says, "in private practice it is difficult to follow up a treatment of this kind." In this case, however, it was carried out with thoroughness and perseverance for nearly six years. The account of the treatment is written in a most graphic and well-expressed manner by the patient himself, who for the last five years "has been free from any sign of a return of the old symptoms." In 1872 he cut his great toe when bathing; the sore was difficult to heal, reopening, and the toe swelling at intervals of several months. In 1874 a scaly eruption was noticed around the ankle. In 1876 the symptoms became general, the hands swelling, and ultimately the ears and face, with other phenomena of leprosy. In 1879 he was unable to walk, and towards the end of that year Dr. Phillippo took him in hand. The gurjun oil, with lime water, was rubbed in all over twice a day, bathing before each application, which had to be often intermitted from attacks of fever. It was also taken internally until 1881, when chaulmoogra oil was substituted for internal use. Gradual improvement then set in, at first in the face. In 1884 he commenced to walk, and in 1885 had quite recovered the use of his legs. Early in 1886 he was considered cured, and discontinued the oils; "from this time," he says, "he ceased to live in grease." On perusing the conflicting accounts, one is inclined to think that many of the reported failures with these oils are due to their improper and insufficient use both as regards time and quantity. As a rule, it can only be in properly appointed special hospitals or asylums that the necessary conditions obtain for such prolonged and troublesome methods of treatment.

Reviews and Notices of Books.

Vorlesungen ueber die Krankheiten des Herzens. Von Dr. OSCAR FRAENTZEL. 1. Die idiopathischen Herzvergrosserungen. Berlin: A. Hirschwald. 1889.

IN these twelve lectures, which we observe are dedicated to the memory of one who was, perhaps, the foremost clinical physician of Germany—Traube,—Dr. Fraentzel has presented his readers with a very clear, and, at the same time, suggestive study of the important class of cardiac diseases, to which he applies the phrase "idiopathic enlargement." He understands thereby all those forms of enlargement that are independent of any valvular derangement. The first lecture, which opens with a brief historical sketch of the subject, does full justice to the writings of Dr. Stokes, which the author thinks have been too much overlooked. The anatomical forms are divided into (1) hypertrophy without dilatation; (2) dilatation with consecutive hypertrophy; (3) dilatation without hypertrophy. Great stress is laid on the intensification of the second sound as a sign of hypertrophy, whilst the value of percussion is shown to lie rather in the estimation of dilatation than of hypertrophy. The notion that an hypertrophy may recede on removal of its exciting cause—as when a previously long-maintained high arterial tension is lowered from any cause (for example, loss of blood)—is advanced as a fact based on personal knowledge, and analogy clearly supports the view. For the purpose of systematic discussion the various forms of cardiac enlargement are divided into—1. Those where there is abnormal resistance in the arteries, pulmonary or aortic. 2. Cases where the muscle of the heart is primarily at fault, without any increased arterial resistance. 3. Conditions of purely nervous derangement. The majority of examples are to be found of course under the first head, which is illustrated by renal disease, arteriosclerosis, excess in feeding or work, conditions of overstrain, and many other causal factors. In treating of these matters an interesting diversion is made in one lecture to the question of the "galop rhythm," by which the author means, not a reduplicated sound, but a second diastolic sound closely preceding the systolic. We need not follow him through his argument and explanation of the cause of this phenomenon, but merely state that he regards it as indicative of a weakened condition, as proved by its appearance in the course of both acute and chronic diseases, where there is much exhaustion. The treatment of hypertrophy is shown to largely consist in well regulated exercise and diet, and in measures to reduce arterial pressure by purgation, diuresis, or even bloodletting. The value of digitalis in dilatation, and of morphia injections in cardiac dyspnœa, is upheld. Of the muscular conditions productive of enlargement, attention is directed to the fatty heart, to myocarditis in acute rheumatism, diphtheria, and other fevers, adherent pericardium, the "weakened heart," sclerosis of the coronary arteries, the last-named so often associated with angina pectoris. Of the neurosal affections, Graves' disease, the abuse of tobacco, paroxysmal tachycardia, and palpitation are chiefly dwelt on, each condition being described with especial reference to treatment. Lastly, a summary is given of the actual anatomical lesions which have been found in the cardiac nerves and ganglia. These lectures are not, however, mere compilations; they abound in original observations of the author, who frequently refers to his own cases. We might particularly instance his remarks upon "overstrain," which he shows may be brought about in an acute and also in a chronic manner, giving full details of two remarkable cases in illustration thereof. To the English student desirous of reading a German work which is not recondite but practically useful and stimulating, these lectures may be safely recommended. Their perusal, too, will serve to bring home the fact that, after all, valvular affections form but a small part of the domain of cardiac pathology.

The Causes and Treatment of Lateral Curvature of the Spine. By RICHARD BARWELL, F.R.C.S., Consulting Surgeon to Charing-cross Hospital. Fourth Edition, almost entirely rewritten, with numerous Illustrations. London: Macmillan & Co. 1889.

MR. BARWELL has now for many years been interested in and working hard at the pathology and treatment of scoliosis, and his views have undergone gradual development. In this edition of his well-known work we have his latest opinions. One new point is the description of an instrument called the "scoliosis gauge," for measuring exactly deviations of the spine. The description of it is so complicated that most readers will have to accept on trust the assurance that it is a simple means of obtaining rapidly an accurate record of curves and rotations of the spine. Nor is this the only part of the book in which the writing is involved. The subject is no doubt specially difficult to treat in a simple perspicuous manner. But many parts of Mr. Barwell's treatise are very tough reading. He has introduced into this edition a description of certain violent manipulations of the spine, designed forcibly to stretch shortened ligaments and muscles. This treatment is called "rachilysis." The cases recorded in the closing chapters of the book are certainly very striking as evidence of its value. Mr. Barwell has grappled with a very difficult problem, and his effort is very painstaking and praiseworthy, and has resulted in a valuable contribution to our knowledge and means of correcting deformity.

Klinische Beiträge zur Manuellen Behandlung der Frauenkrankheiten. Von Dr. EGON V. BRAUN-FERNWALD und Dr. F. KREISSL. Wien 1889.

THIS is a record of a certain number of cases treated by uterine massage. The first variety of the process is called "sacral percussion" (*Kreuzbeinklopfung Tapotement*), and is performed by gentle blows with the clenched fist over the sacral and gluteal regions, the patient being on all fours, the fore limbs on a chair. During the performance of this the patient often feels "contraction in the lower abdomen." This method has, with slight modifications, played a serious *rôle* in the education of the young from prehistoric times, and proves that there is nothing new under the sun. After this is over, the patient being on her back, with the shoulders raised and the lower extremities in the lithotomy position, an assistant lifts the uterus with two fingers in the vagina and holds it in the position of normal anteflexion, while the principal strokes the sides of the false pelvis upwards, so as to lift the intestines. The third manœuvre is called "lifting," and is performed in the same attitude as regards patient and the assistant; the principal catches the sides of the uterus with both hands, lifts it up, and lets it down again three times. After this follows a *Gymnastik* of the levatores ani and adductores femorum muscles. The former is performed by the patient making muscular efforts at intervals, as if for resisting a movement of the bowels, the latter by closing the knees while the doctor offers some resistance by separating them. Then follows a long discussion of the anatomy and physiology of the process, with indications for its use. It must be added that the above is not recommended as an isolated performance, but as a course of treatment. The latter half of the work is made up of a description of cases of pelvic bimanual massage for the resolution of adhesions after inflammation. The process con-

sists of making a bimanual examination, and then rubbing and stretching the deposits and adhesions between the two hands. The massage lasts from five to ten minutes daily, and is continued for from two weeks to three months. The treatment is recommended in conjunction with mud baths. It is not our purpose to seriously discuss whether or not it is conceivable that any of these proceedings can ever do any good, but to furnish our readers in plain English with a description of the treatment, which we unhesitatingly condemn, and, though this is probably superfluous, to express our opinion that no English gentleman would be found willing to advise or practise it, and no English woman to submit to it under any circumstances.

THE INFLUENZA EPIDEMIC.

To the Editors of THE LANCET.

SIRS,—My first impressions of the now recognised epidemic of influenza having been accorded a place in the pages of THE LANCET, I venture to submit a few additional observations based on a further and wider experience of the malady. They will not present any novelty to those who are daily engaged in watching its effects, but may have an interest for those of your readers who are still without the area of invasion.

In the first place, it is right that I should correct the impression which my first communication might convey as to severity of type by stating that the cases which at first fell under my observation were more acute than those which I have seen within the last fortnight. The fever has been less severe and prolonged and the pains less urgent, and I am happy to think that this fact is due to a decline in the severity of the visitation in individual cases rather than to improved therapeutics. In a very large proportion of the cases the pyrexial period has not extended beyond twenty-four hours, and the pains have been not only less acute, but less widely distributed. In several instances they have been limited to the orbital region and the knees and the parts immediately above and below. I need hardly say that I have read with great interest the valuable contribution of Dr. Sisley, and I have been much struck with the contrast which his cases present to those which have come under my own notice as regards the occurrence of rigors and coryza and lacrymation. I have carefully inquired, in every case, as to these symptoms, and have not been able to glean evidence of a single case of rigor, and only within the last few days have witnessed any coryza.

This complication, for such it seems to me to be, has supervened on the subsidence of fever in four cases out of about fifty, and its occurrence has been the more striking from the fact that, in each instance, the patient has been strictly confined to bed and carefully nursed. It would therefore appear to be a secondary symptom, comparable, except as to situation, with the respiratory and gastro-intestinal developments. With regard to the recrudescent pains which occur in those who neglect the precantion of remaining in bed until the complete subsidence of muscular tenderness, they differ materially from the initial pains in being of a distinctly neuralgic character, and are in some instances accompanied by fugitive pains of a similar kind in the wrists, thorax, and ankles. In two cases a violent attack of cranial neuralgia supervened, after some exceptional exertion, a week after convalescence had commenced. This is the more remarkable as the patients had, in both instances, not been liable before to suffer in that manner.

The appearance of the tongue has varied very much. In respiratory and gastro-intestinal complication it has presented the coating which would be expected under the circumstances, but in the milder and uncomplicated cases it has scarcely varied from a condition of perfect health, and the appetite has remained unimpaired. I have seen yet another instance of threatened orchitis in a patient who had not been confined to bed and had attempted to follow an active avocation. The bladder complication which I reported developed into well-marked cystitis, which only subsided after a week's active treatment; and although the patient never left his bed, in twelve hours sharp rigors ushered in an attack of pericarditis. Of thirty-four cases in which I had the opportunity of watching the course of the affection from the commencement, fourteen suffered no complication, fifteen presented well-marked nausea and anorexia. Of these, six had attacks of vomiting, while three presented, in addition, congestion of the spleen, and one of the liver. In four cases in which respiratory complications supervened, the left lung was affected in a marked degree more than the right. The pulse and temperature deserve as much attention during the first few days of convalescence as in the acute stage. For the first day or two the former may be so small and compressible as scarcely to be detected at the first touch, and may take a week or more to recover anything like its normal time, volume, and tension. The temperature is almost invariably subnormal, and may be no less slow in returning to the normal standard. By way of illustration I may mention that, in the case of a boy of ten years of age and of good physique, who had suffered moderate fever for no more than twelve hours, it required a week for the pulse to rise from 56 to 80, and, even at the expiration of that time, the temperature was found at 10 o'clock in the morning to be no higher than 95·3°. It is hardly necessary to emphasise the importance of taking into account so depressed a state of the vital powers in what may be an otherwise favourable convalescence.

The cases in which more than one patient falls ill in one household are of interest in regard to the question of infection, and as helping to determine the period of incubation. I have tabulated sixteen households which have remained under observation during a period of not less than a fortnight from the occurrence of a first case. In nine there has been no recurrence of the malady. In one instance, three cases, presumably infected from the same source, appeared within twenty-four hours of each other. In another a second case occurred in ten days after the first, while in the others nine patients fell ill in from seven to nine days from the sickening of first cases. If a direct connexion may be assumed to have existed between the first and later cases, an infecting period corresponding with the few days of pyrexia, and one of incubation extending over seven or eight days, seem to be indicated.

I will now state, with reference to my suggestion that the conjunctiva may be the point of bacillary invasion, that, in every one of some fifty cases, that membrane was found at an early stage to be suffused and of a rosy hue, due to the injected condition of the vessels, while pain round and behind the orbit, with sometimes tenderness of the bones at its margin and of the supra-orbital nerve, is one of the most frequent and characteristic features of the malady. I may perhaps be permitted to add that, though I have widely recommended the use of a solution of boric acid as a prophylactic measure, I have not yet met with influenza in anyone who has adopted that precaution.

P.S.—As the question of the infectiousness of influenza is at the present time naturally exciting attention, I think that the following statement may be read with interest:—On Dec. 22nd last a patient of mine, who, ten days previously, had commenced making daily visits to the sick room of a relative who had fallen a victim to the epidemic, herself developed the initial symptoms of a sharp attack. On the following day a number of presents, which had been selected for the domestics of her country establishment, were placed on her bed, and she herself folded some of them in paper. On the eighth day after their delivery the housekeeper and two of her children fell ill of influenza, as well as two other servants who had received some of the gifts. A week later the malady, as I am informed, made its first appearance in the village. On Dec. 30th the lady's son and a relative, who was staying in her London house, also sickened, and a week later two other occupants of the house followed in the same train. The inquiries which are about to be made into the nature and course of the epidemic will show whether the circumstances I have related are merely a series of curious coincidences, or whether they indicate the methodical march of an infectious disease.

I am, Sirs, yours faithfully,

Gledhow-gardens, S.W. W. BEZLY THORNE.

THE LANCET.

LONDON: SATURDAY, JANUARY 18, 1890.

THE second Hyderabad Chloroform Commission, whose report appears on another page of THE LANCET of to-day's issue has excited a great deal of interest, both on account of the importance of the subject of investigation and the circumstances under which the work has been undertaken. The Commission owed its existence to Surgeon-Major LAWRIE'S veneration for his late teacher, Professor SYME, and his desire to prove the correctness of SYME'S teaching that chloroform might be with perfect safety administered, provided the administrator watched the respiration with sufficient care. Surgeon-Major LAWRIE'S own experience of many thousand cases confirmed, in his opinion, the truth of this doctrine, but it had been impugned on account of the results of physiological experiments, and he was therefore desirous of proving its truth by laboratory experiments as well as by clinical experience. Accordingly, at his suggestion, the Nizam's Government appointed a Commission consisting of Dr. HEHIR and Messrs. KELLY and CHAMARETTE. These gentlemen, from a series of experiments, arrived at the conclusion that chloroform always arrests the respiration before the heart. A copy of their report and of some remarks upon it by Dr. LAWRIE were forwarded to THE LANCET, but the facts brought forward seemed to us insufficient to overthrow the conclusions of many observers both in this country and abroad whose researches seemed to prove that one of the dangers from chloroform was paralysis of the heart. Our hesitation to accept the conclusions of the first Hyderabad Commission led Dr. LAWRIE to propose a second one, to which THE LANCET should send a representative, and for this purpose the Nizam's Government most generously offered to contribute the sum of £1000. We accordingly selected Dr. LAUDER BRUNTON, F.R.S., and on his arrival at Hyderabad on Oct. 22nd, a second commission was at once formed, consisting of Surgeon-Major LAWRIE as President and of Drs. LAUDER BRUNTON, BOMFORD, and RUSTOMJI as members. The members of the first commission were also associated in the work and rendered most valuable assistance. The experiments were of two kinds, those of one group being made without recording apparatus, and being intended to ascertain what influence is exerted by various conditions upon the relation between the stoppage of heart and of respiration, and the limits within which artificial respiration and other means of resuscitation are useful. The second group consisted of experiments with recording apparatus, and were made for the purpose of ascertaining the effect of various conditions upon the heart and blood pressure. In the first group chloroform was given in all sorts of ways, alone or with morphine, atropine, and strychnine, to animals healthy and diseased, fasting or replete. The result was invariable: in every case the respiration stopped before the heart, sometimes a long time before it. But the effect of partial asphyxia in causing the heart to stop very soon after the respiration is deserving of particular notice.

The second group of experiments on heart and blood pressure was made with apparatus arranged in such a way that the whole experiment could be recorded from beginning to end in such a compass as to admit of photographic reproduction in its entirety. This was managed by recording the general blood pressure on a slowly revolving drum, and taking at intervals a tracing on a second drum, revolving with sufficient rapidity to show each beat of the pulse. About one hundred and fifty experiments were made in this way, and the influence of everything that seemed likely to affect the blood pressure during chloroform narcosis was ascertained. Particular attention was directed to the production of shock or syncope, and to the effect of chloroform itself on the heart and blood-pressure in healthy animals, and also in cases where fatty degeneration of the heart and other organs had been produced by the previous administration of phosphorus. The results of these experiments were unexpected. It was found to be exceedingly difficult to affect the heart reflexly, and recourse was therefore had to direct stimulation of the vagus, by which the heart could be slowed or stopped completely. Instead of this causing the death of the animal, however, it appeared rather to be a safeguard, preventing the anæsthetic from being conveyed in too great quantities to the nerve centres.

In our note to one of Dr. BRUNTON'S telegrams we remarked on the change which his views had undergone. From the report we now publish it will be seen that the discrepancy between the views of different schools arises from the fact that sufficient consideration has not been given to the conditions under which the chloroform is given. Although it may paralyse the heart if applied directly to it, yet this condition does not occur in practice, for here it is neither applied to that organ nor yet is it blown forcibly into the lungs. It is inhaled by the patient, and when this is the case it stops the respiration before the heart. The practical outcome of the research would appear to be that deaths from chloroform are not inevitable. They are therefore preventable, and by due care in its administration they may be with certainty avoided. The conclusions of the Commission are sweeping, and without abundant evidence cannot be accepted. The most important tracings on which they are founded will be published in THE LANCET, but it would be impossible to give them all, amounting as they do to about six hundred. Fortunately the generosity of the Nizam's Government has not been limited to the appointment and payment of the Commission, but by well-timed liberality it has secured the permanent utility of the work done by it, for it has had every tracing photographically reproduced, and will present a copy of the complete work to all the principal medical libraries throughout the world. For this generous liberality the thanks of all mankind are due to the Nizam and to his able and enlightened Minister, Sir ASMAN JAH, as well as to the other members of his Government who have by their co-operation aided and facilitated the work.

IN an article contributed to *Longman's Magazine* of the present month, Mr. CLODD discusses the question of the origin of death and the duration of life. The term "death" as usually understood implies the cessation of vital activity

in the body at large; so that the organism which was capable of performing its normal functions and of responding to external agents in a certain definite fashion peculiar to itself suddenly loses these powers and faculties, and is both acted on by and reacts against external agents in a totally different manner. This is somatic death. A well-known writer summed up the definition of life in the short statement that "life is change." The definition, however, is imperfect and inadequate, for in death there is also change; but the nature of the changes is clearly different in the two states. In life the changes are subordinate to the good of the whole; in death each part undergoes its own alteration quite independently of all other parts, and in a way that depends entirely on its chemical constitution and upon the conditions to which it is exposed. Modern research seems to point to the fact that somatic death is, as a rule, associated with the appearance and development of myriads of minute organisms or microbes, which find the conditions favourable for their multiplication in the oxidising remains of the larger animals, whilst in the smaller animals, visible only under the microscope, there seems to be a general dissolution and sudden disappearance and solution of the whole body. This general or somatic death is, however, to be carefully distinguished from molecular death. Molecular death signifies the change which goes on in every living being as the mere consequence of the chemical mutability of the structural elements of the tissues, so that from moment to moment every tissue and organ and every fluid of the body undergo disintegration, and, having risen by anabolic processes to a certain condition of complexity, instantly commences, whether called functionally into play or not, to undergo catabolic processes, and to descend to lower planes of chemical constitution. The distinction between somatic and molecular death being, then, understood, Mr. CLODD points out that the whole series of living forms may be primarily divided into two groups, of which one is represented by single-celled the other by many-celled organisms. Both are the subject of molecular death, in both there is a constant process of building up followed by disintegration, but the many-celled organisms are alone susceptible of somatic death. The one-celled organisms are immortal, providing the conditions necessary for their existence are preserved. It is possible, of course, to kill them by heat, or by protracted exposure to cold, or by exposing those that live in salt water to fresh, or *vice versâ*; but given the conditions of temperature, moisture, food, and perhaps oxygen, and no limit to their life can be assigned, for no reason can be suggested why they should die. As soon as a certain size is attained division takes place, and, as WEISMANN puts it, there are no grounds for the assumption that the two halves of an amœba are differently constituted internally, so that after a time one of them will die, while the other continues to live. Such an idea is disproved by a recently-discovered phenomenon which has been noticed in one of the Foraminifera, and in other lowly-organised animals of the same group, that when division is almost complete, and the two halves are only connected by a short strand, the protoplasm of both parts begins to circulate, and for some time passes backwards and forwards between the two halves a complete mingling of the whole substance of the animal and a resulting identity in the constitution of each half is thus secured before the final separation. Death is the concomitant of complex structure. With the multiplication of cells discharging separate functions simple division can no longer be effected, or, if it take place, the two halves can no longer persist, because they do not possess identical and essential organs. Death, Mr. CLODD believes, has been brought about—though we find it difficult to follow him here—by natural selection, which determines survival or extinction from the standpoint of utility alone. "There needs no showing," he says, "that it is to the advantage of the species that individuals should die, since their immortality would be harmful all round." But how about the individual?

THE next meeting of the Convocation of the University of London will take place on Tuesday next, the 21st inst., at 5 P.M., and it is expected by many of the members that an opportunity will then be found of discussing the scheme for the reconstitution of the University which has been recently put forward by the Senate. We question, however, if such a discussion can take place. The scheme is still, strictly speaking, a confidential one, and is confessedly put forward only as a basis of conference with University and King's Colleges, the Royal Colleges, and the Legal Corporations; and until these conferences have either been declined or have taken place, the final decisions of the Senate cannot be submitted to Convocation for its acceptance or refusal, and evidently many modifications may result from such conferences. We do not see, therefore, how the chairman of Convocation can permit a discussion on a scheme not placed before Convocation or circulated amongst the graduates, and of which there is no mention in the agenda. It is true that resolutions are proposed which will test the temper of Convocation in relation to the scheme of reform put forward by the Royal Commissioners, and which, if carried, will, by implication, condemn any reconstitution of the University on the lines laid down in their report, which the new scheme purposes to follow, although it departs therefrom in some essential points. These resolutions assert that the proposals of the Royal Commissioners are unjust and unfair to the provincial colleges, injurious to the privileged colleges and institutions, destructive to the London degrees, altogether unsuited to the wants of this University, and totally unfit to be made the basis of a new Charter. If these resolutions, or any of them, be carried, the Senate will be placed in an awkward position, so far as any chance of its own proposals being accepted by Convocation is anticipated, especially if the meeting be large and representative. Whatever may be the line of action taken by Convocation on Tuesday next, a special meeting of Convocation must be called to consider the final proposals of the Senate, after the necessary conferences with the other interested bodies have been held, before any decision as to the application for a new Charter can be made. It is then that the whole question of higher education for London and of degrees for medical students on equitable terms must be adequately and fairly discussed, when, whatever may happen to the other suggestions, the recommendations in the new scheme

concerning the medical degrees will evidently be strenuously opposed. The important question is not, as many seem to suppose, as to how far the members of Convocation shall have representation and power in a new Charter for the University, but, the far wider one, as to what is the best organisation for higher education in London and for granting degrees to London students on equitable terms. Sir P. MAGNUS will find many to differ from him when he takes it as proven that a second University in London would in no way tend to advance higher learning, and might have a contrary effect. As one actively engaged in drawing up schemes of reform for the existing University, he is entitled to put forward his views, but he will hardly expect those who desire a real university—a "*universitas magistrorum et scholarum*"—to accept them, save as purely personal opinions. If "London life cannot enable the University to be remodelled on the type of any other University"—that is, of becoming a University of teachers and scholars, not of mere examiners and examinees—the greater is the reason for the foundation of a true local university. University and King's Colleges, and many persons greatly interested in the higher education of London, but not connected with those colleges, urge that the system of graduation in a teaching university is different in its purpose and dissimilar in its working from those of the University of London, and until this fundamental objection to the pure examination system embodied in that University and in its traditions is really overcome, schemes for reconstitution will have only a secondary importance.

Annotations.

"Ne quid nimis."

INFLUENZA AND THE LONDON DEATH-RATE.

IT is not easy to decide how much of the marked increase in the London death-rate during the fortnight ending on Saturday last was directly or indirectly due to the epidemic, and how much to the low temperature, with more or less prevalence of fog, during the ten days ending on the 3rd inst. The mean temperature of those ten days at the Royal Observatory, Greenwich, was 32·6°, and 6° below the average for the corresponding period in twenty years; and it is certain that this low temperature and fog would have had a marked effect upon the registered mortality of the fortnight ending on Saturday last, quite independently of the influenza epidemic. The Registrar-General points out in his last weekly return that the London death-rate was 32·4 per 1000 last week, and exceeded the rate in any week since December, 1873, except the fifth and sixth weeks of 1880, when the rate was 46·7 and 34·5, and the sixth week of 1882, when the rate was 35·3 per 1000. The excessive mortality on each of those three occasions—in 1873, 1880, and 1882—was consequent upon and probably determined by a succession of dense fogs, accompanied by low temperature. During the recent cold period the temperature was not so low, neither was the fog so dense as on the three occasions above referred to; the death-rate, moreover, did not reach so high a point, although the mortality was undoubtedly raised by the influenza epidemic, to which 67 deaths in London were primarily referred in the week ending Saturday last, in addition to others in which this disease was mentioned in the certificates as a "secondary" cause. It may be noted that the death-rate in the twenty-seven provincial towns last week did not exceed 24·5 per 1000, against 32·4 in London. Comparing the deaths registered in London last week with those recorded in the week ending Dec. 21st, the increase was equal to 51 per cent., the increase in the deaths of males being 58 per cent., and that of females only 45 per cent.; the male mortality was relatively much more excessive than has generally been the case when the mortality has been raised by low temperature and fog. The age incidence of the increased mortality last week was also somewhat unusual. Dr. Farr frequently pointed out that the fatal effect of low temperature increased with age, but this was not the case with the increase of mortality in London last week. Compared, as before, with the deaths in the week ending Dec. 21st, the increase last week among those of young persons aged under twenty years was 30 per cent.; between the ages of twenty and forty years, the increase was 70 per cent.; between forty and sixty years, 93 per cent.; between sixty and eighty years, 51 per cent.; and among persons aged upwards of eighty years, only 25 per cent. Thus the recent increase of mortality was far greater among adults aged between twenty and sixty years than at more advanced ages. As regards the local distribution of the increase, it may be pointed out that in the central registration districts of London the increase of mortality last week was 95 per cent., and in the other groups of registration districts the increase ranged from 44 in the south to 60 per cent. in the west. While, therefore, it may be assumed that much of the increased mortality was due to the cold and fog that prevailed during the ten days ending on the 3rd inst., there are facts in connexion with the sex and age incidence of the excessive mortality pointing clearly to exceptional influences not entirely explained by the unfavourable meteorological conditions.

A CHANNEL BRIDGE.

IN the engineering and railway world, as also among the general public, considerable conversation has been held as to the construction of a great iron bridge which would unite England with the continent of Europe. The plan has been declared quite feasible, and financial, together with military and political considerations, are the principal questions that are raised. To these, however, we would add another and very important point which we fear has not received sufficient prominence. To build the bridge it will be necessary to work below the surface of the water, and this at very considerable depths, under a pressure perhaps of six atmospheres. How will it be possible for men to live and work under such conditions? Theoretically the air could only be breathed if it contains but a feeble proportion of oxygen. It will be necessary to ascertain exactly what mixture will suit men working under a pressure of five or six atmospheres, and how practically the air could be suitably but artificially modified, and then pumped down below the sea in sufficient quantities. Finally, when all this is done, how long can workmen remain below the surface without injury to their health? Hygienists will have to keep very sharp watch, or all these points may be neglected; and whoever contracted to execute such a difficult work would have to be careful to reckon the cost that such necessary measures would be likely to entail. It would not do to allow a contract to be concluded before such questions were raised; but, from the very first, it is indispensable the authorities should stipulate that all projects must comprise a very full account of the measures proposed to be taken to protect the life and limbs of workmen who would be engaged in carrying out the scheme.

MAGNESIA ISINGLASS AS A SUBSTITUTE FOR PLASTER-OF-PARIS.

DR. JOSEF ENGLISCH states in a communication to the *Wiener Medicinische Wochenschrift* that in his experience isinglass is preferable to plaster-of-Paris for rigid bandages, on account of its lightness coupled with extraordinary firmness. It is, according to the author, especially adapted to cases in which the patient is intended entirely or partly to follow his usual occupation. Its disadvantage is, that it takes a long time to harden, and he mentions this as the reason why it has not yet been generally adopted. To obviate this disadvantage, he has used for the last eight years magnesia isinglass, for which he claims excellent results. Four parts of a solution of soda isinglass are by slow boiling reduced to the consistence of thick syrup, and then triturated with one part of finely powdered magnesia, till the mixture becomes whitish with a slight yellow tinge. The unrolled bandages are laid in this pultaceous mass, well stirred in it, and then carefully rolled upon a wooden roller. The prepared bandages must not be exposed to the air for more than fifteen or twenty minutes, and before their application the limb is covered with a double layer of ordinary calico bandage. No cotton-wool or flannel must be used. Four or five layers of the magnesia isinglass bandage are sufficient for the arm, but five or six layers are required for the lower extremity. When the apparatus is intended to remain undisturbed for a longer time than is usually the case, slips of the same material, or of thin leather or cardboard, may be inserted between two successive layers; not all together, as this would interfere with the adhesion of all the layers. From ten to twenty minutes after its application, the apparatus ceases to be sticky, and in from three to ten hours, according to the temperature of the room, it is perfectly hard. It is easy to cut, remove, and reapply the apparatus, so that it does not interfere with other therapeutic measures.

RECOVERY AFTER SYMPTOMS OF ACUTE OBSTRUCTION WITHOUT OPERATION.

SPONTANEOUS CURE in acute obstruction of the intestine is extremely rare, and the following case, communicated by Dr. Behrens to the *Deutsche Medicinische Zeitung*, is therefore of interest. A woman, sixty-one years of age, suffering for about eight years from diabetes mellitus in a mild degree, carried some heavy domestic utensil from one room to another, and in placing it on the floor stooped quickly, when she immediately felt a stabbing pain in the right hypochondrium, which compelled her to lie down. During the next night she suffered from malaise, with inclination to vomit, and the bowels refused to act. The patient felt very ill, and cathartics as well as enemata with castor oil and honey were unsuccessfully employed. The second night violent vomiting occurred, with continual pain in the epigastrium, and calomel with opium were administered, but likewise without giving relief. The vomit had a fæcal odour. Dr. Behrens wished to operate without further delay, but the patient refused. About five hours afterwards he was recalled, when he found that the second powder of calomel with opium had induced a thin motion of a very bad odour, and that the patient felt considerably better. Vomiting and pain entirely ceased with the first motion, and the woman gradually recovered.

THE ILLNESS OF THE MARQUIS OF HARTINGTON.

THE details of the illness of the Marquis of Hartington show that it commenced with catarrhal symptoms, followed, on the 5th inst., with pain in the region of the left scapula, and malaise, but no fever. On the 6th inst. he travelled to Merton Hall, where he was seen the same evening by Mr. Lack, who advised him to keep his room. It was not, however, until Wednesday, the 8th inst., that signs of pulmonary congestion became manifest, and on the next day both lungs were found to be attacked. Fortunately, the course run by the illness has been favourable, although its formidable nature was sufficient to justify anxiety. His lordship has, since the 11th inst., continued to make steady progress. There seems to have been some ambiguity as to whether the illness, in the first instance, was due to the "prevailing epidemic" or not. It may be said, however, that the catarrh and prostration which preceded the development of pneumonic symptoms are suggestive of such having been the case.

MEDICAL OFFICERSHIPS OF HEALTH AND PRIVATE PRACTICE.

THE feeling grows everywhere that medical officers of health should be appointed for large districts, and should not be engaged in private practice. The whole of the medical men resident in the rural sanitary district of the Chippenham Union and the urban district of the municipal borough of Chippenham, have petitioned all parties concerned—viz., the Local Government Board, the County Council for Wilts, the several boards of guardians, and the several sanitary authorities of the said county—in making such appointments in their district against the appointment of any practitioner engaged in private practice. The grounds on which they base their petition are that it is clearly not for the interest of patients that a gentleman engaged in the investigation of outbreaks of infectious and puerperal cases should engage in private practice; that the work would be better and more economically performed by an officer if the sanitary districts were amalgamated as the Poor-law districts have been; that a higher class officer could be so obtained; and, finally, that a medical officer of health so appointed would be more independent than one in ordinary practice could be, as well as at more leisure to do sanitary work thoroughly. These reasons are sound and strong. The medical profession are right: first, in being unanimous in their views on the subject; and, secondly, in agreeing to represent this unanimity to the authorities. We heartily wish their petition success, and commend it to the profession in other sanitary districts. The action of the profession in the immediate future may have a permanent effect on the sanitary arrangements of the country.

THE SOCIETY OF PUBLIC MEDICINE AND PROFESSIONAL HYGIENE.

THE leaders of sanitary reform in France who constitute the powerful Association known by the above somewhat cumbersome and lengthy title have found that their duties increase so rapidly as to render reorganisation necessary. To them is due the success of the International Congresses of Hygiene held in Paris in 1878 and 1889; and to them also such legislative measures as have at rare intervals been enacted for the better preservation of public health. This society holds ten general meetings in the year at its headquarters in the Rue Serpente, and it is now found that this does not suffice for the transaction of all the business and elucidation of all the questions submitted. Dr. H. Napias, the general secretary, and Dr. A. J. Martin, the assistant secretary, have therefore drawn up an elaborate project of reorganisation with a view to decentralise the work of the Association. They propose that the Society should be divided into seven grand and permanent committees, each appointing its presidents and vice-presidents, secretary, and assistant secretaries, and meeting at least once a month, with power to establish permanent or temporary sub-committees. These seven grand committees

would collect, analyse, and present to the general sittings of the entire Society those documents and facts that seemed most important, and which would record the progress accomplished both at home and abroad. Every year each committee would give out two or three great questions to be studied, and would also see that the resolutions adopted at the International Congresses of Hygiene were carried out in as practical a manner as possible. The committee must further use its best endeavours to promote original research. The seven committees will be divided as follows. The first is the committee on the Hygiene of Childhood: infancy, milk, school sanitation, prophylaxis of the diseases of children, seaside resorts for the strumous, &c., are the subjects comprised in this section. The second committee deals with Urban and Rural Sanitation—lighting, warming, ventilation, drainage, water-supply, hospitals, sewage disposal, mineral waters, and thermal stations. The third committee is on Professional and Industrial Hygiene—trade diseases, the sanitation of factories and workshops, machinery, military and naval hygiene. The fourth committee deals with the Prophylaxis of Contagious Diseases—epidemiology and bacteriology applied to hygiene. The fifth committee is to investigate all that relates to Food-supply — adulteration and chemistry applied to hygiene. The sixth is on International and Administrative Hygiene—exotic maladies, medical geography, sanitary police, sanitary legislation, &c. The seventh committee is that of Demography and Vital Statistics. The English and other foreign corresponding members of the Society will soon be called upon to decide to which of these seven committees they are best able to render some assistance; and it is satisfactory to note that the work is being thus carefully systematised and classified.

LYMPHADENOMA AND ITS TREATMENT.

AT a recent meeting of the Paris Surgical Society (*Rev. Gén. de Clin. et de Thérap.*, No. 47) M. Reclus related the case of a young man who was the subject of lymphadenoma, a large mass of glands occupying both sides of the neck from the mastoid to the clavicle, and extending posteriorly beneath the trapezius muscle and causing some dyspnœa. There were no swellings in other situations, no signs of tubercle, and no leucocytosis. As extirpation was out of the question, arsenical treatment was vigorously pushed, commencing with five drops of Fowler's solution daily, which was increased by two drops every day, when also injections (amounting to ten drops daily) were made of the same solution into the hypertrophied glands themselves. The injections produced small abscesses, which healed spontaneously; and at the end of two months, when as much as twenty-five drops per diem were being taken, and a notable diminution had taken place in the swellings, the treatment was suspended. It was, however, renewed from time to time, and finally replaced by phosphide of zinc, the result being most satisfactory, only two or three barely perceptible nodules remaining at the site of the previous tumour. M. Reclus gave particulars of two other cases similarly treated with success, and also of three in which the result was unfavourable. Although, then, he pointed out, arsenic could not be said to be absolutely specific, yet it is certainly very efficacious in lymphadenoma, of which clinically there are two forms—the benign and the malignant. Surgical interference, he thought, was harmful, in that it was rapidly followed by recurrence, as shown by Verneuil, Trélat, and Bouilly. M. Quenu admitted the good results of the treatment, but pointed out that the diagnosis was uncertain, and that under "lymphadenoma" often were included very different conditions. M. Routier mentioned instances of benefit from arsenic; in one case the disease was only temporarily arrested. M. Verneuil also alluded to the difficulty of precise diagnosis, and considered that excision was permissible in the benign cases of simple glandular hypertrophy. M. Terrier said it was impossible to diagnose at first between a lymphadenoma and a simple hypertrophy, unless recourse were had to microscopic examination and inoculations, and that early excision might not be followed by recurrence even of lympho-sarcomata. M. Trélat said that glandular tissues which were not secondary, cancerous, or syphilitic were either tubercular or lymphadenomatous, the former in the great majority of cases. Benign lymphadenoma was the same as simple hypertrophy, and should be excised; whilst the malignant form, which is rapidly generalised, should not, he considered, be so treated.

SCARLATINA AND DRAIN EFFLUVIA.

IN a case which came before the Brighton County Court last week, and in which there was a claim for house rent and a counter claim for costs sustained by reason of illness, the question practically resolved itself into the extremely difficult one as to whether effluvia from a faulty drain are in themselves capable of producing scarlet fever. There seems but little doubt that a syphon trap on the main drain of the house was partly if not entirely blocked; that this blocking had existed, at least in part, before the date when the house was taken; and that foul odours were noticed in the house. Although sore throat is alleged to have preceded the scarlatina, the latter disease did not manifest itself for more than three weeks after occupation; and the weight of the medical evidence was to the effect that scarlatina was not likely to be induced by the drain conditions which existed, apart from exposure to the poison of the disease, directly or indirectly, in some other person. On this, the judge decided that the counter claim could not be entertained, and judgment followed for the plaintiff. It is almost impossible to decide how far throat affections which at times follow exposure to drain effluvia, as appeared to have occurred in this case, are related to true scarlatina; they certainly tend to assume an infectious form, and by some they are regarded as distinctly specific. On the other hand, the cases referred to by the complainant may have been mild attacks of unrecognised scarlatina preceding the more obvious attack which followed later on. But the decision of the judge was, we believe, based on the generally accepted view that definite scarlatina is not a direct primary result of exposure to ordinary drain effluvia.

THE PREVENTION OF CRUELTY TO CHILDREN.

A SUMMARY of its operations just issued by the National Society for the Prevention of Cruelty to Children, though brief, is instructive no less as to the need than the method of its work. The short, but full, statement of childish miseries here presented, as containing the experience of the Central Office only, is quite sufficient to justify the Society's endeavour, so far successful, to increase its usefulness throughout the country by means of aid committees. It is obvious, too, that the privilege long enjoyed by the Factory Acts, and even the Act for Preventing Cruelty to Animals, that of effectual application by paid agents, cannot in fairness be denied to the legal charter of the Society. Its members perceive, as others also must, that without some system of inspection and administration the Act will prove but a phantom of justice. They have therefore issued an appeal to all who appreciate their efforts to raise the sum of £15,000 which is required in order to maintain one trained officer in every 100,000 of the population. A further and greater demand, though it may be more difficult to satisfy, is little, if at all, less deserving of public recognition. This is what is known as the Commemoration Fund, a sum of £100,000,

intended to form a reserve in case of need arising out of the expenses unavoidably incurred in prosecuting defaulters, and of providing for children virtually homeless, who are from time to time entrusted by magistrates to the care of the Society. A good beginning has already been made in the work of contribution towards this latter object, but it is at best only a beginning. When we state that 1535 complaints of cruelty, including all varieties of ill-usage, have been investigated by the officials of the central committee alone, and that 218 persons have been sentenced to from one month to fifteen years' penal servitude, while 918 have been warned, it must be evident that the business of correcting such abuses is no sinecure. Means, time, and capacity are all required, and the least that a discriminating public can do is to find that pecuniary aid without which neither wise design nor energetic action can long escape the atrophy of starvation.

IODINE AS A REMEDY FOR VOMITING.

M. DARTHIER (*L'Union Médicale*, Dec. 10th) bears testimony to the value of tincture of iodine administered internally for the relief of vomiting, a remedy recommended by the late Professor Lasegue in the vomiting of pregnancy. The author had observed its use in nineteen cases, eleven of which were tubercular subjects, and found that it is of more value in the vomiting of early phthisis than in that of the later stages of this disease. At the same time he gives instances of advanced cases with obstinate vomiting where the symptom was largely controlled by the drug. Amongst other cases he gives one of bronchial dilatation (subsequently fatal from acute tuberculosis) in a female, who for three weeks had regularly vomited after every meal. From the date of commencement of the use of the drug she ceased to vomit, and after a week's treatment, which was not productive of any signs of iodism, was completely cured of the symptom. Apart from phthisical vomiting, M. Darthier finds it useful in alcoholic gastritis, in ulcer of the stomach, and in the vomiting of pregnancy and of chlorosis, instances of which are recorded. He says that the majority of the patients take the iodine with pleasure; it often produces an agreeable sense of warmth in the stomach, lasting from five to twenty minutes. The dose is ten drops, dissolved in 125 grammes of water, taken in three portions immediately after meals. In a certain number of cases, symptoms of iodism are produced, chiefly coryza; but a good many patients do not experience any such inconvenience from it.

RECREATION GROUNDS FOR LONDON.

THE latest report of the Metropolitan Public Gardens Association will repay the expenditure of such leisure time as may be bestowed upon it by those interested in the physical well-being of the London poor. Though of course available for all classes, it is particularly in the interest of such as are compelled to accept a life of overwork and to rear their children in the close air of poor city homes that the work of the Society has been carried on. The advantages which it confers on all such can hardly be over-estimated. We therefore note with satisfaction that, though the income of the Society has during the past year suffered materially from the lack of certain large sums formerly at its disposal, its useful work has undergone no visible diminution, and its membership has materially increased. Facts of much importance are the establishment of cordial relations between the Society and such other civic bodies as the London County Council and the Charity Commissioners, and the assistance rendered by these bodies in the maintenance of open spaces—a measure of help which it is expected will increase with time. Another pleasing feature is the growing tendency shown by the School Board to further the aims of the Society by opening its playgrounds for recreation on Saturdays. Among the projects carried out successfully during the past year we may mention the opening of one large public park—that known as Myatt's Fields, S.E.—and three gardens, assistance rendered in the laying-out of nine other open spaces, grants to gymnasia, tree-planting in various districts, the opening of one Board school playground, &c. The work in hand includes a strenuous endeavour to secure for public use the Bethnal-green Poor's Land; an undertaking to secure if possible cricket grounds in or near London; to preserve Barnes Common and Old Oak Common, S.W.; and the laying-out of some half-dozen burial grounds. By efforts like these the Association, ably supported by other kindred societies, continues a work which a mere glance at the map, furnished with its report, shows to be as truly metropolitan as it is eminently useful. During the past year there has been, as we have said, an increased willingness on the part of public bodies to relieve the Association of the cost of maintaining various open spaces. Its income thus spared will be the more serviceable for new undertakings, and it will also, we trust, be substantially increased by much-needed and well-merited pecuniary contributions.

MOUTH-BREATHING AND THE TEETH.

DR. SCANES SPICER read a paper at the last meeting of the Odontological Society upon "Nasal Obstruction and Mouth-breathing as Factors in the Etiology of Disorders of the Teeth." In the course of his remarks he said he had been struck with the frequency with which carious teeth were associated with obstruction of the pharynx and enlarged tonsils; so much so that he had made it a routine practice to examine the teeth in all cases of nasal obstruction, and he believed that there existed a relation between them; and he further is of opinion that there is a generic relation between some cases of vaulted arch, narrow jaws, and irregular teeth, and nasal obstruction. Normally we should breathe through the nose, so as to warm and filter the air respired. All animals, savage races, and young infants do so; but a large number of adults of civilised nations breathe through the mouth, because they have some obstruction of the nasal passages—erectile tumours, permanent catarrhal affections, polypi, post-nasal adenoid growths, &c. Mouth-breathing, he said, as a predisposing cause of caries of the teeth, came into action in various ways. The teeth were exposed to a current of air of a much lower temperature than that of the body, which would tend to cause inflammation of the periosteum and pulp of a tooth; the cold dry air produced congestion of the mucous membrane, with a secretion of stringy acid mucus; and the rapid evaporation of water which takes place when the mouth is kept constantly open inspissated this mucus, which so formed a fertile soil for the development of micro-organisms. Again, when sleeping with the mouth open, the tongue falls back and the parotid secretion finds its way directly through the pharynx instead of bathing and washing the teeth. With reference to the so-called V-shaped maxilla, Dr. Spicer thought that many cases might be traced to mouth-breathing, the muscles of the cheek pressing unduly upon the soft alveoli when the mouth is open.

HEALTH OFFICER FOR VICTORIA.

WE are informed that an important appointment of Superintending Health Officer for the Australasian Colony of Victoria has been made by the Victorian Government, and that their choice has fallen upon Dan Astley Gresswell, B.A., M.D. Oxon, and Diplomate in Public Health of the University of Cambridge. Dr. Gresswell's career has been one which eminently fits him for this appointment. Having entered Balliol College, Oxford, in 1871, he migrated to

Christ Church, after being elected to a scholarship in Physical Science, and he was placed in the First Class in the Final Honour School of Physical Science in 1874. After moving to St. Bartholomew's Hospital, he took his M.B. degree, and then entered the service of the Metropolitan Asylums Board as assistant medical officer to several of their fever hospitals; he was also subsequently house physician at St. Bartholomew's Hospital. Having spent some time in travel and in the study of colonial and foreign diseases, for which purposes he received a grant from the Scientific Grants Committee of the British Medical Association, he returned to St. Bartholomew's Hospital as Assistant Demonstrator of Physiology, an appointment which he held until he was offered a temporary inspectorship under the Medical Department of the Local Government Board, a post which gave him the opportunity of preparing a number of very able reports dealing with the etiology of the infectious fevers. He has also submitted some valuable papers to the Epidemiological Society. His thesis for the M.D. at Oxford dealt with investigations as to scarlet fever, and this thesis is the first one which has been "recommended to the University for publication as being of exceptional excellence." It is now in process of printing by the Clarendon Press. Such antecedents eminently fit Dr. Gresswell for the post he is now called to occupy. The study of the causes of enteric fever in the colony will alone occupy much time, but his peculiar fitness for the task before him will ensure for him the confidence of the Government under which he will now serve. That Government is, indeed, to be congratulated on having secured so able a head to the new department about to be created; and we heartily wish both them and Dr. Gresswell success in the work which is about to be undertaken. Dr. Gresswell, who will receive £1000 a year for his services, sails for Melbourne early next month.

INSANITARY DWELLINGS.

FROM time to time the Sanitary Committee of Wigan have had under their notice the question of insanitary houses. The medical officer of health and the borough engineer have presented reports on houses which are unfit to be used as dwellings, and unfortunately many of them cannot be made wholesome. These reports have been considered time after time by the committee, but next to no action has been taken, as there were many obstacles in the way of total demolition, besides displacing a poor lot of tenants for whom no provision had been made. Finding that no compensation could be made, the corporation, in a recent Bill for the extension of the borough, sought powers to borrow money, so as to make some sort of compensation to owners of houses which were to be totally demolished; and although their Extension Bill fell through, they obtained powers to borrow money for this purpose, as well as powers of compulsory notification of infectious diseases. The corporation next appointed an Insanitary Dwellings Committee to deal with the reports of the medical officer of health and the borough engineer, and the town clerk has drawn up rules setting forth their powers under Cross's and Torrens' Acts, and also pointing out what he would recommend in the way of carrying into effect the local act. It is agreed that the compensation should go towards the rebuilding of the property, and in this case five years' purchase is to be offered on an average of three years' net rental—that is, three years' net rent is taken to get the annual value, and then five years' purchase is to be given; in case, however, the land should be too small for houses to be built which will meet the requirements of the bye-laws, then ten years' purchase is to be given, and the site to be the property of the corporation. It is estimated that there are in the borough at least one thousand insanitary dwellings, and care will need to be exercised in displacing these tenants, who are of the poorest and lowest class. If we estimate a population of five and a half for each house, then we shall have 5500 people displaced, and this in a town with a population of about 54,000. The town clerk is of opinion that private enterprise will provide houses for these people, but that remains to be seen; if not, then there will be overcrowding in the other parts of the town. We may say that the subject is one more difficult to deal with than at first sight appears; there are many obstacles to contend with before the ratepayers' money can be spent in enabling owners of the dwellings to receive compensation which they would not be entitled to under the Public Health Acts, and it is to be hoped that the Insanitary Committee will be met in a proper spirit, and not compelled to enforce the general Acts and give no compensation. Heartburnings will inevitably arise, some one is sure to be aggrieved, and some one is sure to lose; but the authorities are bound to grapple with this very important subject, not only in the interest of the ratepayers, but of the poor themselves.

SOUTH HANTS INFIRMARY: NURSING SCHEME.

THE governors of the South Hants Infirmary have just adopted by a very substantial majority a resolution which cannot fail to have a very considerable, and, as we think, a very beneficial effect upon the future working of their institution. Founded so long ago as 1831—before the days even of Florence Nightingale—it was very naturally supplied at first with a nursing staff of a very low order of intelligence and skill. In those days this defect was universal in hospitals and infirmaries. But recent years have seen a great improvement in this respect. From being a mere drudge the nurse has come to be a highly skilled attendant upon the sick, and step by step the gradual improvement in her status and accomplishments has redounded to the advantage of her patients, who are no longer subjected to the thousand ills which want of thought and want of skill on the part of the nurse entailed upon the sick. The South Hants Infirmary had, however, in this respect fallen somewhat behind the times, and it was felt by some of those who were most nearly interested in the management of the institution that its nursing arrangements did not reach the modern standard. Hence arose a movement for reform which a few days since received, as we are glad to learn, the sanction of the governors. The scheme adopted comprises the formation of a nursing training school, and the supply of the needs of the infirmary from the staff so formed and the probationers who will attend the school. It is, therefore, broadly framed upon the lines which have been followed by most of the great London hospitals, and we see no reason to doubt that it will prove as successful in Hampshire as it has proved in the metropolis. Notwithstanding the strong and obvious recommendations which the scheme possesses, we understand that it has been adopted only in face of a strenuous opposition—an opposition based, as we gather, chiefly on two grounds—namely, a fear lest trained nurses should prove less tractable than untrained, and less observant of the directions of the medical staff, and, furthermore, a doubt upon the ground of expense. The first of these is an objection which some years ago had a certain amount of force, for at first there was no doubt some difficulty in adjusting the exact position to be filled by the trained nurse. That, however, is, we are happy to believe, a dead and done-with difficulty. It is well understood that the province of the nurse must not trench upon that of the medical attendant, and that her training when properly carried out fits her to co-operate with him, but not in any sense to supersede or resist him; indeed, the passive resistance which results from ignorance and incapacity on the part of an incompetent nurse to receive and carry out the doctor's instructions is the chief

hindrance which in practice the nursing staff puts in the way of the medical staff. As to the financial question, we are less able to form an opinion; but we should have supposed that the old adage, that if a thing is worth doing at all, it is worth doing well, would have settled the matter; indeed, it may well be that it has settled it, for the scheme, as we have said, has been adopted. Certainly it would be hard to believe that the work of any hospital was well done if its nursing department was in incompetent hands.

HEALTH OF THE PRINCESS OF WALES.

SOME uneasiness having been caused in the public mind by rumours respecting the health of the Princess of Wales, we have much satisfaction in being able to state that the indisposition from which Her Royal Highness has been suffering has not been of a serious character. The Princess was able to leave her bed on Wednesday last, and there is now every prospect of her speedy and complete recovery.

ONE METHOD OF TREATING INFLUENZA.

PROFESSOR W. WINTERNITZ communicates to the *Internationale Klinische Rundschau* an account of how he contrived to cut short an attack of influenza in his own person. Several members of his family having suffered from the epidemic, he himself was suddenly seized two days after Christmas with a severe headache, which was frontal at first, but rapidly spread over the temporal region and vertex, rendering all attempts to think almost useless. A cold feeling then came over the back, the hands, and the feet, and the whole body shivered with cold; there was great dulness; and a painful lassitude in all the limbs and about the pelvis, with sneezing, and a profuse watery discharge from the nasal mucous membrane, then manifested themselves. The pulse an hour after the commencement of the attack was 104, and the temperature 38·8° C. (101·6° F.). It was now 8 P.M., and the weather exceedingly cold (22° F.), with snow on the ground. Professor Winternitz wrapped himself in furs and went out into the open air, walking at first with great difficulty. Soon, however, he found he could walk more easily and more quickly, and he began to get warm all over. Breathing, which had been laboured, soon became freer, and the pains in the head and limbs began to give way. He walked as fast as possible, in order to induce free perspiration, which commenced in the head, and soon the whole body was bathed in moisture. As soon as he got home he dried and rubbed the body little by little with a rough towel, clothed himself in flannel, and got into bed, where he was well covered up. His pulse had then fallen to 84, and the temperature to 38·2° C., the respiration was quiet and deep, and altogether he felt warm and comfortable. In another hour the temperature had fallen to 37·4° C. After a hearty supper he went to sleep, and awoke in the morning quite well, without sneezing or catarrh.

THE STATE BOARD OF HEALTH OF NEW YORK.

IN submitting their ninth annual report, the State Board of Health of New York are able to express the conviction that their labours in the past have been devoted to the education of the people in the care of health and life, with the result of securing increased healthfulness throughout the State. The Board is evidently so organised as to constitute a series of departments dealing with different questions affecting the public health. Thus many demands are made upon the Board as to suitable methods of sewerage, drainage, and sewage disposal, and these are complied with, authorised experts advising the local bodies after due inquiry. Much the same applies to the pollution of streams and watercourses by sewage; and on this subject it is definitely stated that the experience obtained is to the effect that the noxious qualities of polluted water are not removed by a flow of many miles in an open channel, even though the water may have become thoroughly clarified by the complete sedimentation of the solids originally held in suspension, and hence that no such stream can safely be employed as a source of potable water-supply. Then, again, general sanitary investigations are carried out either as the result of complaints or on account of the prevalence of unusual sickness in a place. In this way a number of important sanitary defects are brought to light; as, for example, the existence of sources of excremental contamination in connexion with ponds used for the purposes of collecting ice. Strenuous efforts are stated to be in progress to prevent all pollution of water-supplies, and it is satisfactory to note that the various health authorities co-operate loyally with the board in this respect. Dealing with the natural history of the various diseases met with, diphtheria is specially referred to; and, contrary to our own experiences, it is looked upon as much more a city disease than it is in this country, where, until recent years, it has mainly affected rural areas. It is not regarded as being actually due to sewage nuisances, but when once introduced these are held to give it a power for spread and persistence which it would not otherwise possess. The body of the report, which is very voluminous, reproduces a number of the principal reports addressed to the board, and it contains a large amount of statistical matter. As far as regards the State as a whole, and after making certain necessary corrections and allowances for defective returns, the general mortality for the year 1888 is given as 19·64 per 1000 living.

WHOLESALE LEAD-POISONING AT SHEFFIELD.

FOR some time past cases of lead-poisoning have occurred at Sheffield and in the neighbourhood, which have been clearly traced to contamination of the water-supply with that metal. From facts already ascertained it would appear that over one hundred and twenty persons have been distinctly affected; whilst many others, it is alleged, have suffered in health from the same cause; and it is even stated that some of the assurance offices have declined to insure certain lives on account of the contamination of their system with lead. As is usual, very different opinions exist as to the extent of the mischief; but after a careful perusal of both sides, we have come to the conclusion that a very serious amount of water contamination by lead is at present at work in Sheffield, and that many severe instances of plumbism have occurred, whilst in other cases health has been gravely impaired. It does not appear that the contamination exists at the source whence the water is drawn, or that it proceeds from any large lead works; rather it seems to be simply due to the action of the water itself on the leaden service pipes to the houses. The causes which produce this action of water on leaden pipes are clearly understood, so that the remedy ought to be easily applied. It is very significant that the cases of plumbism have been more numerous during the autumn and early winter months, when the collected waters contain a greater amount of carbonic acid, owing to the decomposition of organic matters, such as decayed leaves, rushes, and weeds, than during the spring and summer months. No doubt the conditions leading to the present severe outbreak have been long accumulating, and the leaden service pipes, some nearly fifty years old, have been gradually choked with carbonate of lead, which is now being washed off in larger quantities. Besides, an outbreak of plumbism is not like an epidemic of scarlet fever, typhoid, cholera, or influenza, which make themselves apparent by a general increase of sickness and mortality; but the victims of lead-poisoning

pass a long incubative period whilst the poison is being deposited, and it is not till the system is saturated, or a larger dose than usual absorbed, that the definite symptoms are produced. The water committee of the Town Council have been severely censured for the apathy they have hitherto shown in the matter, but we are pleased to hear that they are at length awakening to the importance of dealing energetically with the dangerous state of affairs. Fortunately, the remedy is simple, but we fear, if it is to be dealt with effectually, expensive. In the first instance, they must determine what is the peculiar action of the water-supply on the lead pipes of the town. This could be at once adopted as a preliminary step; but for a radical cure they will be obliged to institute a thorough examination of the existing service pipes, and remove all that show the slightest incrustation with carbonate of lead, and replace them with pipes enamelled within. Indeed, if the water from the Redmires reservoir proves to be as we have stated, then for permanent safety the whole of the service pipes that supply water from this reservoir should be enamelled. Further investigation may show that, on the whole, it may be cheaper to look for a fresh water-supply than to lay down an entirely new service of pipes; but in any case no old pipe should be allowed to remain that shows the slightest incrustation of carbonate of lead.

THE NATIONAL LEPROSY FUND.

AN influential and representative assembly, which included two princes of Hawaii and the brother of the deceased hero, met his Royal Highness the Prince of Wales on Monday last, at a subscription dinner at the Hôtel Métropole, for the advancement of the leprosy investigation fund, which is to form a fitting memorial to the late Father Damien. The report of this meeting will be found in another column. His Royal Highness, in an eloquent and powerful speech, whilst admitting that personally we had little to fear, set forth the prevalence and extension of the disease in India and some of our colonies, and made out a strong case, on grounds both of philanthropy and public policy, for making a serious effort to control and diminish the ravages of the disease. As an important preliminary, and to enable such steps to be taken intelligently and to the best advantage, it was proposed by the Committee, if the funds permitted, to found two scholarships to investigate the disease, one to study in England and Europe, the other to, if possible, track its causes in its native haunts in India and the colonies. The idea that the disease is ever likely to again obtain a foothold in this country may safely be dismissed; but the very magnitude of the evil (it being estimated that in India alone 200,000 lepers exist) has tended to paralyse efforts which otherwise might have been made to cope with it. We may fairly hope that now that public interest has been excited in sympathy for the noble self-sacrifice of Father Damien, the movement may bear good fruit by rousing the rulers of India from their expectant attitude to grapple seriously with the disease. They have not hesitated to spend enormous sums in taking measures for the prevention and relief of the frequent widespread famines which from time to time have devastated the country, and great as is the magnitude of the evil of leprosy, it is far less than that of the periodical famines, and only requires similar energy and a much less expenditure to deal with it. At present strict segregation appears to be the best means of controlling the disease. The travelling scholarships may, and doubtless will, help us towards a better and more accurate knowledge of leprosy; but in such a disease, so slow in its development and chronic in its course, past experience forbids us to hope for any immediate and striking result from this or any other single means. It is only by the slow gathering of many rivulets of information, collected from a wide area and over long periods of time, that a river of knowledge may be formed, perhaps by the inspiration of genius, into a mighty flood which may sweep away the disease into the ocean of the historic past. We are happy to add that the honorary secretary announced that £2500 had been promised at the dinner, making £7000 out of the £12,000 required to carry out the schemes contemplated by the Father Damien Committee.

OPHTHALMOSCOPIC DEMONSTRATIONS.

THE first of a series of six lantern ophthalmoscopic demonstrations, to be continued on Tuesday evenings in the Royal Westminster Ophthalmic Hospital, King William-street, Strand, was given by Mr. Adams Frost on the 14th inst. The object of this course is not to teach merely the pathological aspects of the fundus, but to place before students and others the great importance of having a knowledge of the normal fundus. The tendency is to devote too much attention to its abnormalities, and to neglect its normal variations. It is only by examining a large number of normal eyes that proficiency can be obtained in recognising abnormalities. As we have not yet arrived at any method of showing the interior of the eyeball to several observers at once, except by means of drawings, Mr. Frost has had an extensive series of drawings of the fundus of the eye made. These, again, can only be shown to a few simultaneously, and that forms one great difficulty in lecturing on this subject. To overcome this difficulty, Mr. Frost has had most of these drawings painted on glass slides, by means of which he is able to give this series of demonstrations. The first three lectures are to be devoted almost entirely to the physiological variations of the fundus, and the remaining three to its pathological conditions. Many excellent pictures of a very high character were then shown, among which may be mentioned as particularly fine a case in which the scanty pigmentation of the pigment layer of the retina rendered the choroidal vessels visible, a microscopical section of the retina showing its different layers, and another showing the retinal reflexes around the optic disc. By manipulation of the lantern the curious effect known as parallactic movement of the floor of the cup was admirably demonstrated. It was pointed out that although these pictures represented the fundus, they ought not to usurp the place of ophthalmoscopic pictures. It was impossible to become good ophthalmoscopists or to acquire actual knowledge of the fundus without practice. Drawings necessarily fixed everything, whereas in the eye itself the appearances were constantly changing with the position of the mirror, the nature of the light falling on the fundus, and also of the blood stream, and the thickness of the particular tissues. Altogether there was an amount of softness in life which it was impossible to put into a picture. The slides were all numbered, so as to form a ready reference for questions that might be asked at the end of each lecture. The lecturer invested his subject with an unusual amount of interest, and was followed throughout with much attention by his audience.

HORSEFLESH.

A PROSECUTION is reported from Reading under the "Sale of Horseflesh Act" of last year, which has resulted in the conviction of an offender, and, it may be hoped, in the suppression of a considerable contraband traffic. The seizure was made in circumstances which would appear likely to have occasioned some difficulty in securing a conviction, since the meat in question was not exposed for sale, but was kept in a shed, and said to be in transit to

Germany, where its sale would of course not be subject to the regulations provided by the British statute. The magistrates, however, refused to take this view of the transaction; and as the tradesman in whose possession the meat was found was a large purveyor of sausages and such like articles of food, they no doubt drew the inference that the real destination of this particular horseflesh was not Germany, but some place within the county of Berks. If the defendant was in point of fact contemplating no breach of the law, he has chiefly himself to blame for the mistake which in that case has arisen, since he made no attempt to prove the allegations made by his counsel, but was content to let his case rest upon the production of an unauthenticated order from some customer in Gotha for a quantity of horseflesh. He thus escaped the ordeal of cross-examination, but considerably weakened his defence, with the result that, as we have already said, he suffered a conviction; and from what subsequently transpired, we gather that it is not intended to appeal in any way against the decision. The present is, we believe, the first occasion on which the new statute has been put into force, and it is satisfactory to observe that if not often called into operation, it is at least capable, when set in motion, of dealing in a very searching and very effective manner with the matter which it was intended to repress.

SUCCESSFUL ACTION AGAINST A FRIENDLY SOCIETY BY A MEDICAL MAN FOR WRONGFUL DISMISSAL.

A VERY important action has been tried in the Cardiff County Court, in which Mr. P. J. O'Donnell, of Cadoxton, sued the Pember Lodge of the Ancient Benefit Friendly Society for the sum of £20 for unlawful dismissal. The case of Mr. O'Donnell was, shortly, this. He was a surgeon practising at Cadoxton, near Cardiff, and had been for eighteen months the medical officer of the Pember Lodge. No complaint of neglect or incompetency had been made or suggested—on the contrary, repeated votes of thanks had been passed to him by the lodge—when suddenly, "without rhyme or reason," as Judge Owen said, he received notice that his services would be dispensed with. It even came out in evidence that previous to this step being taken, another medical man had been communicated with as to his willingness to take the lodge. As he replied in the affirmative, the notice was served on Mr. O'Donnell. Mr. O'Donnell asked for a reason, but none was given. He then got his solicitor to ask, but it was resolved to give no answer, and he was dismissed without notice. The attempts to justify this high-handed and foolish conduct were failures. One was that, according to a rule, all disputes between members were to be settled by arbitration. But the judge soon decided that this was not a dispute between members, but between the surgeon and the Society. Another was the argument that Mr. O'Donnell would not think of complaining if a private patient resolved to dismiss him for another medical man. The judge again quickly showed the great difference between a Society, in a matter of contract, acting capriciously and a private individual retaining a medical man simply as long as he pleased; but even a private patient, he maintained, might commit a great wrong in dismissing a medical man without any sufficient reason. The only real case made out against the medical officer—and that by a searching cross-examination—was that he had not walked in the processions of the lodge and that he had not worn a scarf! No wonder that such a case excited the laughter of the court, and led the judge to say "that he could scarcely conceive more foolish conduct" than that of the lodge to their medical man. He allowed the full amount claimed and costs for one witness, counsel, and solicitor. He at once refused leave to appeal. We have often of late remarked upon the strong sense of justice and consideration displayed by judges towards medical men, who are often treated with scant allowance and justice. We trust that this case will be a warning to Friendly Societies to treat their medical men with some sense of what is due to their calling, especially where, as in this case, they have to admit the faithful performance of duties.

PROFESSOR JOHN WOOD, F.R.S.

A COMMITTEE has been appointed, of which Dr. A. B. Duffin is treasurer, to present Mr. Wood with a testimonial in recognition of his long and valued services as an anatomical and surgical teacher at King's College and King's College Hospital. We regret to hear that Mr. Wood's health is far from satisfactory.

THE BIRMINGHAM CONFERENCE ON HOSPITAL ABUSE.

WE hope next week to notice the important Conference on Hospital Abuse in Birmingham, which we report in another column. We direct the attention of the members of the Conference to the fact that the Manchester Provident Scheme is by no means free from liability to criticism. The abolition of the wage limit was a great mistake, and might lead to a dispensary abuse almost as great as the hospital abuse.

"LOOKING A GIFT HORSE IN THE MOUTH."

ON the 7th inst. a public meeting was held in the Public Hall, Aboyne, to consider a generous offer made by Mrs. Pickering, to erect and endow a Convalescent Home and Hospital at Belwood, east of the village. A resolution was carried, acknowledging Mrs. Pickering's generosity; but, in view of the great disadvantages and danger that may accrue to Aboyne as a health resort of admitting patients suffering from certain kinds of diseases, recommending that stringent regulations be formulated and adopted in respect thereto. A committee was appointed to communicate these views to Mrs. Pickering, and to take such other steps as might be deemed advisable.

THE SERVICES OF COUNTY HEALTH OFFICERS.

THE Grantham rural sanitary authority have passed a resolution to the effect that if the County Council appoint a county medical officer of health, it is desirable that an arrangement be entered into which will make the services of that officer regularly available for the purposes of the rural sanitary district. This is an arrangement contemplated by the Local Government Act, 1888, but it has hitherto been regarded as involving difficulty, inasmuch as the advising officer of the supervising county authority will be the very officer who is largely responsible for the sanitary work of the authority presumably needing centralised local supervision.

ILLNESS OF SIR EDWIN CHADWICK, K.C.B.

THE veteran sanitarian, Sir Edwin Chadwick, has been confined to his room at his residence, Park Cottage, East Sheen, for several days by a severe attack of bronchitis. The symptoms have been a cause of considerable anxiety to Lady Chadwick and to the family and friends of Sir Edwin, and naturally so, considering that he has now entered his ninety-first year. Dr. Marshall of Barnes has been in regular attendance, and Dr. B. W. Richardson has been several times in consultation. We are glad to be

able to announce that the acuteness of the attack has passed away, and that at the present moment the indications of recovery are of a satisfactory character.

THE report by Messrs. Crookes, Odling, and Meymott Tidy, on the condition of the metropolitan water-supply during the month of November, shows that they have examined 182 samples, from analysis of which they are able to report that the condition of the water-supply to the metropolis during the month of November has continued satisfactory, but with the coming on of winter there was noticeable a slight increase in the small proportion of organic matter recorded as present in the water for now several months past. There has also been observed at times an amount of turbidity and colouration which is also accounted for by the season of the year. The proportion of organic carbon varied from 0·057 to 0·178 in every 100,000 units of water; the water supplied by the Southwark, Vauxhall, and Grand Junction Companies being the highest in this respect, while the Kent and Colne Valley supplies were as usual of a high degree of organic purity, the Kent supply being specially distinguished in this respect. Dr. Frankland in his analysis states that taking as unity the average amount of organic impurity contained in a given volume of the Kent Company's water during the nine years ending December, 1876, the proportional amount contained in an equal volume of water supplied by each of the metropolitan water companies and by the Tottenham Local Board of Health was—Kent, 0·8; New River, 0·9; Tottenham, 1·2; Colne Valley, 1·4; Lambeth, 2·7; Grand Junction, 2·8; Southwark, 3·2; West Middlesex, 3·3; East London, 3·5; and Chelsea, 4·0.

THE Clerical, Medical, and General Life Assurance Society is an office which, as its name imports, cultivates close relations with our profession. We observe accordingly, with satisfaction, that it is able to report having received during the past year the largest accession of new business that has ever yet fallen to its portion in a single year. The Society has always claimed to offer the best advantages which the latest improvements in actuarial science or business practice have authenticated; and we note that the tradition is this year maintained by the announcement of a new form of policy singularly free from restrictive conditions or territorial limitations. We have long held the opinion that the life assurance contract ought, as far as is possible, to be protected from defeasance upon any ground except, of course, actual fraud; and we are glad to see that this opinion is receiving the sanction of adoption by some among the best of our life assurance institutions.

THE centenary of the death of John Howard, the philanthropist, will fall on Jan. 20th, this year, and to commemorate this event it is proposed to erect a statue of him in bronze at Bedford, where he spent much of his time, and where his house is still to be seen. It was his appointment as high sheriff of the county in 1773 that determined his whole philanthropic career. Towards the erection of the proposed statue subscriptions are solicited, which may be paid to Messrs. Smith, Payne, and Smith, bankers, London.

OUR Aberdeen correspondent writes:—"Influenza, in epidemic form, has taken root and is rapidly spreading in Aberdeen. The attack in the average case lasts for four days, and, as far as can be learned, no serious or fatal cases have occurred. Dr. Hay's report for last week shows a return of 43 cases of zymotic diseases; of these 23 were cases of measles, 11 of scarlet fever, and 3 of typhoid fever."

REPORT
OF THE
SECOND HYDERABAD CHLOROFORM COMMISSION.

PART I.

THE ORIGIN OF THE COMMISSION.

1. IN presenting the report of the Second Hyderabad Chloroform Commission to his Highness the Nizam, the Commission desires to express to his Excellency the Prime Minister, Sir Asman Jah, its grateful sense of the extraordinary and unprecedented liberality and public spirit displayed by his Highness's Government in carrying out a work which is not only of scientific interest, but of the greatest practical importance to the whole human race.

2. The Commission was greatly encouraged in this work by the personal interest shown in it by his Highness the Nizam, who, accompanied by his staff, visited the laboratory on two special and memorable occasions.

3. The Nawab Munir-ul-Mulk, son of the late Sir Salar Jung, the Maharajah the Peshkar, and the Nawab Fakhr-ul-Mulk also paid visits to the laboratory and witnessed several of the experiments.

4. The same interest which was displayed in originating the Commission was maintained throughout by the principal officers of his Highness the Nizam's Government, especially the Nawabs Mohsin-ul-Mulk, Imad-ud-Daulah, his Highness's private secretary, Intesar Jung, Fatteh Nawaz Jung, and Mr. Furdonji Jamshedji, private secretary to Sir Asman Jah.

5. Two Commissions to examine into the alleged dangers of chloroform have been appointed by his Highness the Nizam's Government. The first Commission, which was appointed in 1888, consisted of Surgeon Hehir, I.M.D., President, and two members, Messrs. J. A. Kelly, L.R.C.P. & S. Ed., and A. Chamarette, L.M.S. This Commission was applied for by Surgeon-Major E. Lawrie, Residency Surgeon, Hyderabad, because, having always believed in the truth of Syme's teaching, that chloroform can be used judiciously so as to do good without the risk of evil, he desired to show by experiments upon dogs that in death from chloroform the respiration always stops before the heart. This point having been proved, the second Commission was applied for, because it was felt that Syme's principles, which both experience and experiment had shown to be practically sound, must be founded upon a firm physiological basis.

6. The following letter explains the action of his Highness's Government with regard to the first Commission, and the lines on which the experiments they performed were conducted:—

From Surgeon-Major E. Lawrie, M.B., Residency Surgeon, Hyderabad, to Surgeon P. Hehir, M.D. Dated Hyderabad, 18th January, 1888.

In accordance with instructions from his Highness's Government conveyed in Major Gough's letter of the 15th instant, a copy of which is forwarded herewith, I have the honour to inform you that a committee is appointed, consisting of yourself as President and Messrs. A. Chamarette and J. Kelly, L.M.S., as members, to carry out a series of experiments to test the effects of poisonous doses of chloroform on dogs.

These experiments should have an important bearing on the way in which the administration of the anæsthetic ought to be conducted in the human subject.

I would suggest that the experiments of the Commission be conducted on the following lines:—

I. The attention of the Commission should be specially devoted to the effects of chloroform on the circulation and respiration.

II. The chloroform should be administered generally in the same way as it is ordinarily given to patients in the Afzul Gunj and Residency Hospitals.

III. The dose and rapidity of administration should be varied in every possible way, and the admixture of air with the chloroform should also be varied.

IV. At least 100 full-grown dogs should be killed with chloroform, and the points to be specially noted should be—

(*a*) The time taken to bring the dog fully under the influence of the anæsthetic.

(*b*) The interval between this and the stoppage of respiration and cessation of the pulse and heart's action.

(*c*) Whether the heart is directly affected by chloroform, and whether it ever ceases to beat either in slow or rapid poisoning before the respiration stops.

(*d*) The effects of artificial respiration commenced directly the respiration stops and at varying intervals afterwards.

V. The details of procedure will be left to the Commission, and you are requested to submit a report of the work of the Commission at any time convenient to yourself before the termination of the official year.

7. The report of the work of the first Commission, which is republished as Appendix A, was embodied in the annual report of his Highness's Medical Department for 1888. The experiments of the Commission led them to conclude "that chloroform may be given to dogs by inhalation with perfect safety, and without any fear of accidental death, if only the respiration, and nothing but the respiration, is carefully attended to throughout."

8. In forwarding the report to Government, Surgeon-Major Lawrie stated that "the results of the experiments harmonise with the principles necessary for the safe administration of chloroform taught by Mr. Syme, who never had a fatal case, and with my own experience, which is founded upon those principles. I have killed scores of dogs with chloroform, and in every instance death has resulted from failure of the respiratory function. I have also given chloroform in surgery, without a death, for more than twenty years—during the last fifteen years several (five to ten) times every day—and I have never seen syncope or failure of the heart's action produced by it. Finally, it may be mentioned that the Hyderabad Commission have searched the records of accidental deaths from chloroform in Great Britain since the year 1855, and they find that there is not a single death from chloroform recorded in which it was proved that the respiration alone was attended to throughout the inhalation."

9. The report was forwarded to THE LANCET and other medical journals in due course, and the reception it met with, as well as the circumstances which led to the appointment of the second Chloroform Commission, are rendered clear by the following quotations from THE LANCET:—

[THE LANCET, March 2nd, 1889.]

In a report of the recent prize distribution at the Hyderabad Medical School, which appeared in our issue of Feb. 23rd, some remarks of Surgeon-Major Lawrie, M.B., M.R.C.S., of the Bengal Army Medical Service, are mentioned which deserve some comment. We learn that a Commission had been appointed to investigate the action of chloroform, and that the result of the researches made upon pariah dogs was that these animals were killed from respiratory failure, and in no case did cardiac syncope occur directly. Unfortunately, Mr. Lawrie contents himself with bare statements of results, adding that these results tally with his own experience, which he believes to be uniquely large. Mr. Lawrie, as a disciple of Simpson and Syme, arrives at conclusions consonant with the teaching of those great clinicians, but utterly at variance with the experience alike of experiment and practice as carried out in Europe. We should require more than the scanty statements of experiments performed upon dogs—notoriously non-susceptible to chloroform syncope—before we could accept the conclusions of the Hyderabad Commission when they appear to go in the very teeth of those at which the Commission appointed by the Royal Medical and Chirurgical Society and by the British Medical Association arrived, and, further, are opposed to the careful and painstaking experiments of such scientific observers as Snow, Claude Bernard,[1] McKendrick, and others too numerous to mention. All those who are familiar with chloroform are well aware that syncope, when primary, as a rule supervenes in the initial stages of inhalation, while secondary syncope due to respiratory embarrassment is the result of accumulation of chloroform in the blood leading to paralysis of the medullary centres, and occurs in a late stage of the administration. The primary syncope it is rarely, if ever, possible to induce in dogs, although, unfortunately, it is this form of chloroform heart failure which does occur in human beings, and which it is almost impossible to remedy. While welcoming the attention paid to the subject by the Hyderabad Commission, we cannot but feel that, should the Commission inculcate a disregard of the heart as a factor in chloroform dangers, it will do harm and provoke a slipshod carelessness in the use of that valuable anæsthetic which must in the long run do damage to the cause the Commission has espoused.

[THE LANCET, May 11th, 1889.]

By Surgeon-Major E. Lawrie, Residency Surgeon, Hyderabad, and Principal, Hyderabad Medical School.

In THE LANCET of March 2nd, 1889, page 438, there is an annotation criticising certain remarks of mine on the subject of chloroform in which the writer states that[2] "all those who are familiar with chloroform are well aware that syncope, when primary, as a rule supervenes in the initial stages of inhalation, while secondary syncope, due to respiratory embarrassment, is the result of accumulation of chloroform in the blood, leading to paralysis of the medullary centres, and occurs in a late stage of the administration," and that unfortunately it is the primary form of chloroform heart failure which occurs in human beings, and which it is almost impossible to remedy. I have no wish to say anything to give offence to those who hold the same views as the writer of the annotation, but I hold that those views are wrong, and that there is no such thing as chloroform syncope.

It is conceivable that syncope may occur in the initial stages of inhalation of chloroform, but in the course of a very large experience I have never met with a single instance of such an accident, and if it ever does occur it cannot be due to chloroform poisoning, though it might be caused by fright or shock. Owing to the numerous accidents that have happened with chloroform, to the discussions prevalent in the profession, and to the mistaken notion that the risk of heart failure is inseparable from its use, the public dread its administration much more than they dread surgical operations, and fainting from mere fright in the early stages of inhalation is no less intelligible than it is easy to prevent, in cases where it is likely to occur, by a preliminary dose of alcohol. On the other hand, it is equally intelligible that syncope may be induced if an operation be commenced in the initial stages of chloroform administration, before the patient is rendered insensible to shock by being brought fully under its influence. With regard to secondary syncope, THE LANCET states that it is due to respiratory embarrassment (through the respiratory centre?)—which is an indirect cause, and, in the same sentence, that it is the result of paralysis of the medullary centres (circulatory?) from accumulation of chloroform in the blood—which is a direct cause.[3] Both these statements cannot be true. The truth is that secondary syncope has no more real existence than primary syncope. In poisoning by chloroform the heart fails when the respiration ceases, and never before. With the cessation of respiration, the further accumulation of the drug in the blood necessarily ceases, and the heart rapidly or gradually stops beating, as a direct result of the stoppage of respiration, and as an indirect effect of the poisoning with chloroform.

THE LANCET asserts that the statements made in my address are utterly at variance with the experience alike of experiment and practice as carried out in Europe. They are nevertheless based on the principles taught by Syme and Simpson, and I hope by their successors, in Edinburgh, and long before the Hyderabad Commission was formed I had satisfied myself that they are entirely true.[4]

The Hyderabad Commission was appointed by the Nizam's Government to verify or refute the opinion that if chloroform is properly given it has no injurious or dangerous effect upon the heart. The experiments of the Commission were performed publicly and with every precaution against inaccuracy, and the conclusions they arrived at are irresistible. The chloroform was given in every possible way, and in no case did the heart become dangerously affected until after the breathing had stopped. This is not, as THE LANCET avers, a scanty statement of experiments performed upon dogs; it is a summary of the results of more than two hundred complete experiments carried out by the Commission, and it tallies exactly with my own experience. If direct heart failure were one of the risks of chloroform, it must have occurred in some of the administrations which I have superintended; but I have never seen the heart directly affected by chloroform, nor have I ever seen the inhalation carried so far in human beings as to affect it indirectly. Neither I nor the Hyderabad Commission have any desire to "inculcate a disregard of the heart as a factor in chloroform dangers, and so to provoke a slipshod carelessness in the use of that valuable anæsthetic." Our object is the very reverse of this, as a consideration of the difference between the position we take upon this point and that of those who hold the same views as THE LANCET will show. THE LANCET would trust to the heart and circulation for signals of danger in chloroform administration. Our contention is that, if the administration is ever pushed far enough to cause the heart to show signs of danger, the limits of safety have already been exceeded, and a fatal result must almost inevitably ensue. So far from disregarding the heart as a factor in chloroform dangers, we say that any affection of the heart, either direct or indirect, is the one danger to avoid. But we say further that the respiration invariably gives warnings when a dangerous point is approached, and consequently that it is possible to avert all risk to the heart by devoting the entire attention to the respiration during chloroform administration.

I am well aware that these opinions appear to go in the very teeth of the conclusions at which the Commission appointed by the Royal Medical and Chirurgical Society and by the British Medical Association arrived, and "are opposed to the careful and painstaking experiments of such scientific observers as Snow, Claude Bernard, and McKendrick,"[5] as well as to the teaching of the great London schools. But this opposition is more apparent than real. THE LANCET states authoritatively that chloroform syncope is notoriously difficult to produce in dogs. The Hyderabad Commission confirms this statement, and says it is impossible to produce it at all. This difference may be fully accounted for by the fact that the experiments of the Hyderabad Commission were numerous, while those quoted by THE LANCET were not only not numerous, but many of them were performed under conditions which impair their value. Moreover, there are certain points connected with the effects of chloroform on dogs which a careful perusal of all their reports has convinced me neither the Commissions nor the distinguished physiologists appreciated. In any case I would ask whether anything can be more discreditable or unsatisfactory to the whole profession than the present position of chloroform. During the last forty years, while enormous progress has been made in every branch of medicine and surgery, the position of chloroform has decidedly deteriorated, and the principles necessary for its safe administration have been lost sight of. From the date of its first introduction there was a divergence of opinion between the Edinburgh and London schools with regard to the way we should be guided as to its effects. Up to the time of his death Syme taught:[6] "we are guided as to the effect of chloroform, not by the circulation, but entirely by the respiration." At the same time Erichsen was teaching, and still teaches, that "when fully anæsthetised the patient requires the most careful watching by the person who administers the chloroform; his finger should never be off the pulse, nor his eyes taken away from the countenance of the patient."[7] These are the opinions of two of the most eminent surgeons that have ever lived, and they are absolutely irreconcilable. Erichsen's opinion has undoubtedly been fortified by the misleading conclusions of the Chloroform Commissions, and of the scientific observers above alluded to; but the Hyderabad Commission has proved that Syme was right, and I have no doubt whatever that, if his principles were acted on universally, all surgeons would find, as he did, that chloroform may be used judiciously so as to do good without exposing patients to the risk of evil. Chloroform administration constitutes, in my humble opinion, the most pressing and important question in the whole range of practical surgery; and if THE LANCET will not accept the conclusions of the Hyderabad Commission, it is incumbent on it to urge the appointment of a

[1] This is a mistake on the part of the writer in THE LANCET, *vide* page 19 of this report.

[2] To be honest this sentence should run:—"All those who are familiar with *deaths from* chloroform *in human subjects*"—which I am not.—E. L.

[3] I may have interpreted the writer's meaning wrongly, but it does not affect the argument.

[4] Vide lecture reprinted from the *Indian Medical Gazette* for March, 1889, Appendix D.

[5] Vide page 19 of this report.

[6] Vide THE LANCET, vol. i., p. 55, for 1855. Syme's original lecture from THE LANCET in which this appears is republished in the appendix.

[7] Vide Erichsen's Surgery, vol. i., p. 14.

European or joint European and American Commission, composed of men of wide experience in chloroform, to confirm or disprove them.

[THE LANCET, July 13th, 1889.]

We have received a telegram from Surgeon-Major Lawrie to the effect that his Highness the Nizam of Hyderabad offers to place the sum of £1000 from his private purse at our disposal that we may send one or two representatives of THE LANCET to Hyderabad to repeat the experiments made by the Hyderabad Chloroform Commission (*vide* THE LANCET, Feb. 23rd and March 2nd, 1889), and to make any others which we may suggest. We await further details of the offer, which, we are informed, will be sent by mail.

[THE LANCET, Sept. 21st, 1889.]

The Residency, Hyderabad, Aug. 18th, 1889.

THE EDITORS, THE LANCET.

SIRS,—I am directed by his Highness the Nizam's Government to offer THE LANCET, as the leading medical journal, £1000 to send out a representative to repeat the experiments of the Hyderabad Chloroform Commission, and make any others with the Commission that you may suggest.

2. The Hyderabad Committee performed a series of experiments of a clinical nature on the effects of chloroform on dogs in 1888, and their conclusions were embodied in a report which was submitted to Government early this year.

3. The experiments of the Commission tend to prove that chloroform has no direct action upon the heart, and though it is hardly to be expected that their conclusions will be accepted as final by the whole of the medical profession, their work may be safely said to constitute an interesting addition to what is already known about chloroform.

4. The Nizam's Government has been advised that if the experiments are continued and amplified by the Hyderabad Commission, associated with a trained scientist whose position and attainments will ensure the acceptance of his opinions by the profession, the subject might be threshed out thoroughly, and the question whether chloroform does or does not affect the heart directly, and other questions connected with it, might be settled once for all.

5. His Highness's Government therefore desires to offer £1000, a cheque for which is forwarded herewith, to the Editors of THE LANCET, to send a representative to Hyderabad to repeat and continue the experiments of the Hyderabad Chloroform Commission and make with them any others that THE LANCET chooses to suggest.

6. If his Highness's offer is accepted, the gentleman selected should take a return ticket by P. and O. *vid* Brindisi for three months, to be extended if necessary, and he will be the guest of the Nizam's Government during his stay in Hyderabad.

7. The Hyderabad Commission undertake to place themselves entirely at his disposal, and will act under his direction. The Commission will provide all instruments and appliances and everything which may be required for the experiments, and will, without bias, do all in their power to assist the representative of THE LANCET in arriving at the truth. I have, &c.,

ED. LAWRIE, Surgeon-Major, Residency Surgeon.

[THE LANCET, September 21st, 1889.]

On another page we print Surgeon-Major Lawrie's letter containing details of his Highness the Nizam of Hyderabad's offer to place at the disposal of THE LANCET, as the leading medical journal, the sum of £1000 to send out a representative to repeat the experiments of the Hyderabad Chloroform Commission, and to make any others that we may suggest. This offer we have cheerfully accepted. There are many young men of great ability and thorough scientific training who could have done this work exceedingly well, but in accordance with the Nizam's desire that we should select a man who is not only a trained scientist, but one whose position and attainments will ensure the acceptance of his opinions by the profession, we have requested Dr. Lauder Brunton, F.R.S., to act as our representative, and he has consented to set out for Hyderabad on Oct. 4th, which is the earliest possible opportunity. Dr. Lauder Brunton has not only devoted much time to pharmacological work for more than twenty years, his first contribution on the action of nitrite of amyl having appeared in our columns in 1867; but the fact that his large work on "Pharmacology and Therapeutics," which appears also in an American edition, has been translated into French, and is now being translated into German, Italian, and Spanish, shows that he is regarded as an authority in other countries as well as our own. It may perhaps be considered as a further advantage that in this work Dr. Lauder Brunton has very decidedly stated that one of the dangers resulting from chloroform is death by stoppage of the heart. "Audi alteram partem" is the motto of an important section of THE LANCET, and we think that by getting both opinions regarding the effect of chloroform on the heart represented on the Commission, as they will be by Dr. Lauder Brunton and Surgeon-Major Lawrie, we are more likely to obtain a correct conclusion. The question whether chloroform paralyses the heart or not is one of the greatest possible practical importance, for upon its correct solution the lives of thousands of people and the happiness of thousands of families may depend. Both in Europe and America clinical experience and physiological experiments have led to the conclusion that it has a paralysing action on the heart, while ether exerts such an action in a very minor degree, if at all. In consequence of this, ether is now largely used in this country as well as in America for producing anæsthesia in surgical operations, in spite of the greater pleasantness and convenience of chloroform. It is almost impossible to believe that the conclusion at which European and American surgeons and scientists have arrived is, after all, destitute of foundation, and little better than an idle dream. When we find, then, that Dr. Lawrie and the Nizam's Commission have arrived at an entirely opposite conclusion, it is natural that we should hesitate to accept it. A consideration of the report of the Commission appears to show that the number of experiments performed was not only large, but the results were so uniform that the conclusion arrived at—viz., that chloroform does not paralyse the heart, but kills by stopping the respiration—may fairly be taken as correct for the animals experimented on, and for the conditions under which the experiments were performed. But if we grant this, we are at once confronted by the next problem: Why do the results of the Nizam's Commission differ from those of European and American investigators? Is it because the experiments in India were carried on in a warmer climate? Or is it because the animals experimented upon were peculiarly resistant to the action of chloroform? These questions can only be answered by further experiments, which can hardly fail to be of practical utility, even if they afford only a partial solution of the problem. For Surgeon-Major Lawrie states in his letter, which appeared in our issue of May 11th, that the results of the experiments carried out by the Commission tallied exactly with his own experience. In the correspondence which occurred on the subject in THE LANCET some writers agreed with Dr. Lawrie, while others supported the opposite view. We may, perhaps, fairly call these two views those of the Edinburgh and London schools. In the Scotch capital failure of respiration is regarded as the chief or only danger, while in the metropolis failure of the heart is more feared. It is quite possible that the surgeons in both cities are right, and that the habits or mode of living of the people may lead to differences in the resisting power of the cardiac or respiratory apparatus respectively. The proportion of gouty patients is much larger in London than in Edinburgh, and when we consider that the natives of India appear to resemble the Scotch in their comparative immunity from cardiac paralysis by chloroform, it will be advisable for the Commission to ascertain, if possible, what the conditions are which enable the heart either in dogs or men to resist the power of chloroform or which lead to its stoppage during the administration of the drug. It may not be possible to work out completely all the questions which may arise, but if the Hyderabad Commission, with the aid of Dr. Lauder Brunton, can settle definitely the question whether chloroform does or does not affect the heart directly, a most important practical object will have been attained by means of the Nizam's generous offer.

10. The opinions held by the medical profession in Great Britain may be fairly judged from the above quotations from THE LANCET. There is no doubt they were and are largely influenced by the experimental results obtained by various observers, and more especially by the committee of the Royal Medical and Chirurgical Society and of the British Medical Association or Glasgow Committee. Both these committees arrived at the conclusion, from a very limited number of experiments, that chloroform lowers the blood pressure, while ether does not. The Glasgow Committee went further, and not only stated that chloroform lowers the blood pressure and paralyses the heart, which ether never does, but drew the important conclusion from experiments on one dog only that this action is sometimes exerted in an unexpected and capricious manner.

11. The state of opinion regarding chloroform in America may be inferred from the statements made regarding it in the last edition of H. C. Wood's "Therapeutics," one of the best American works on the subject. He says: "As an anæsthetic chloroform possesses the advantages of quickness and pleasantness of operation, smallness of dose, and cheapness. These advantages are, however, so outbalanced by the dangers which attend its use that its employment under ordinary circumstances is unjustifiable. It kills without warning so suddenly that no forethought or skill can guard against the fatal result. It kills alike the robust and the weak, the well and the diseased; even the previous safe passage through one or more inhalations is no guarantee against its lethal action. Statistics seem to indicate a mortality of about one in three thousand inhalations, and hundreds of utterly unnecessary deaths have been produced by the extraordinary persistence in its use of a portion of the profession. It ought never to be employed except under special circumstances, as when a speedy action is desired in puerperal eclampsia, or when the more bulky anæsthetics cannot be transported, as in the field at war time."

12. These passages from the work of one of the greatest authorities on the subject in America show that in that continent chloroform is regarded with somewhat of the same disfavour with which it is looked upon in England, and probably upon the same grounds. Although the experiments of the Hyderabad Commission are much more numerous than those made in any previous investigation, yet their number is infinitesimal in comparison with the number of times anæsthetics have been given all over the world, and each administration may be regarded as an experiment on the action of the particular anæsthetic employed. When it is considered that, after so many administrations, or experiments, as these may be termed, on the human subject, opinions are so divided in regard to the action of chloroform as at present, we cannot think that the conclusions at which the Hyderabad Commission have arrived will necessarily carry conviction to those who hold opinions opposed to them. The objection may be made that the Hyderabad experiments have been made on the lower animals, and however correct the Commission's conclusions may be in regard to them, they do not hold for man. To this objection it is a sufficient answer that the fear of chloroform paralysing the heart is based on the results of laboratory experiments rather than on clinical experience. Deaths have occurred during the administration of ether as well as of chloroform, and it is not the deaths during operations, but the observations on blood pressure and on the action of chloroform on the exposed or excised heart which

have led to the unfounded dread in the profession that it may paralyse this organ when given as an anæsthetic.

13. But there is still another difficulty; however fair and impartial the Hyderabad Commission may try to be—and even though those who differ from them may credit them with care, honesty, and impartiality—its conclusions will always be open to the objection that the Commission may be mistaken, and any mistake on its part would be all the more fatal and disastrous, because its conclusions would be very difficult to disprove, since they are founded on such a mass of experimental evidence as has never been collected before, and is hardly likely to be collected again, at least for many years. To avoid such a possibility the Commission have tried, as far as possible, to give the experimental data from which their conclusions are derived, so that at any future time and in any part of the world these data will be as available to others as to themselves, and may be used by them either for the purpose of criticising the Commission's conclusions or drawing conclusions of their own. The utility of such a course has been impressed upon the Commission during the progress of this investigation by the example of the Glasgow Committee, which they have followed. The Glasgow Committee drew from one experiment alone the sweeping conclusion that chloroform has sometimes an unexpected and capricious effect on the heart's action, and that "the occurrence of these sudden and unlooked-for effects seems to be a source of serious danger." This conclusion is obviously of the utmost importance in regard to chloroform, and, if correct, would justify the condemnation of its use by the American author already quoted. If the Glasgow Committee had only given their conclusions, it would have been very difficult indeed to disprove them; but fortunately they have published a copy of the manometer tracing on which these conclusions are founded, and an inspection of this leads inevitably to the belief that the sudden and unlooked-for effects on the heart's action which the Committee attributed to chloroform are not really due to it at all, but are due to irritation of the vagi quite apart from the action of the anæsthetic, and are the result of accidental asphyxia. The Commission have followed the excellent example of the Glasgow Committee, and reproduced by photography the tracings on which their opinion is based, so that all those who look at them and compare them with the tracings of the Glasgow Committee, which they have also reproduced, may judge for themselves, and form their own opinions on the subject.

14. Dr. Lauder Brunton and Surgeon-Major Bomford arrived in Hyderabad on October 21st, 1889, and the second Commission was constituted at once as follows:—Surgeon-Major E. Lawrie, M.B. Edinburgh, president; Dr. T. Lauder Brunton, F.R.S., Surgeon-Major Gerald Bomford, M.D. Lond., Dr. Rustomji, H.H. the Nizam's Medical Service (members), Dr. Bomford, secretary.

15. Associated with the second Commission were the President and members of the first Commission—viz.: Surgeon P. Hehir, M.D., President; Mr. J. A. Kelly, L.R.C.P. and S.Ed., L.F.P. and S.Glas., and Mr. A. Chamarette, L.M.S., members. The Commission is very much indebted to all the gentlemen mentioned, as well as to Mr. William Mayberry, who gave chloroform; but is especially so to Dr. Arthur Chamarette, to whose energy and fertility of resource the success of the experiments is mainly due. The Commission also desires to thank Mr. Tripp, the Deputy Principal of the Medical School, and Mr. Carroll, his Highness the Nizam's Medical Storekeeper, for much valuable assistance ungrudgingly afforded.

16. The Commission commenced work on the 23rd October, and met daily, except on Sundays and holidays, from 7 A.M. till 5 P.M., until the 18th of December, when the experiments were concluded.

17. The Commission was divided into two Committees: one, which will be referred to throughout the report as the Committee, was composed of Drs. Lauder Brunton, Bomford, Hehir, and Chamarette; the other, which will be referred to as the Subcommittee, was composed of Dr. Rustomji, Mr. Kelly, and Dr. Gay (who volunteered to help), assisted by students.

18. The Committee first of all performed twenty-seven experiments, numbered from 1 to 28, omitting 25, which was a manometer experiment, to test the work of the first Commission. From No. 29 the Committee were employed principally with blood pressure experiments. The ordinary experiments, performed without recording apparatus, were then made over to the Subcommittee, which continued to work in the same room under the supervision of the Commission.

19. The experiments of the Subcommittee are numbered continuously with those of the Committee, so as to form a consecutive series and facilitate reference.

PART II.

GENERAL EXPERIMENTS WITHOUT RECORDING APPARATUS.

20. The experiments of the Subcommittee, together with the first twenty-eight performed by the Committee, form a total of 430, and are divided into seven sections. These experiments are recorded in a tabular form at Appendix B. 268 dogs and 31 monkeys were killed outright, and 86 dogs and 39 monkeys were subjected to artificial respiration at varying intervals after the natural respiration had been arrested with chloroform. The animals which were killed had chloroform administered to them in every possible way and under every conceivable condition. A large number of dogs were killed just as they were caught in the bazaars; others at various intervals after having heavy meals of meat or farinaceous food or fat; others fasting; others after the administration of Liebig's extract of meat, coffee, rectified spirits of wine or ammonia. Most of these animals were healthy, but some of them had cardiac disease, and in many the heart and other organs were rendered fatty by the previous administration of phosphorus. In a large number of cases morphine, strychnine, and atropine, singly and in combination, were given by subcutaneous injection at intervals before the inhalation was begun. Chloroform was given with and without inhalers; in the vertical and recumbent positions; in glass and wooden boxes; in large and small doses; by being pumped into the trachea with bellows; and, in fact, in every way that could suggest itself to the Commission.

21. The results in one respect are uniform. In every case where chloroform was pushed the respiration stopped before the heart. The table on the opposite page shows the interval of time between the cessation of respiration and of the heart's action in dogs and monkeys in uncomplicated cases, and in cases complicated by asphyxia and by the administration of certain drugs subcutaneously before the chloroform inhalation was commenced.

22. The movement of the heart was in the first 66 cases of the Subcommittee tested by auscultation, but afterwards by a needle inserted through the chest wall into the organ, and the thoracic cavity was laid open when doubt existed.

23. In the majority of the uncomplicated cases, which include those fed in different ways before inhalation, the heart ceased to act in from two to six minutes after stoppage of the respiration. In one uncomplicated case the heart's action ceased within one minute after the breathing stopped. The heart ceased within one minute after the respiration stopped in two cases where the inhalation was very slow and prolonged, in four cases complicated by asphyxia, and in one where the subcutaneous injection of morphine (gr. $\frac{1}{4}$) and strychnine (gr. $\frac{1}{75}$) was administered beforehand. The maximum time the heart continued to beat after the respiration ceased, in the experiments of the Subcommittee, was eleven minutes in a dog and twelve in a monkey.

24. The effects of chloroform do not appear to be interfered with or much influenced by any of the variations in the method of preparation of the animal for, or of the administration of, the anæsthetic. There are four general exceptions to this statement. In very slow and prolonged administration, and in cases complicated with partial asphyxia, as well as in one case where one-third of a grain of atropine was administered before the inhalation, the heart stopped very soon after the respiration ceased; and in all cases where the inhalation was accompanied by struggling the animals became insensible with unusual rapidity. In these cases also the interval between the cessation of respiration and the time of possible restoration by artificial respiration was shortened. (*Vide* tables in Appendix B.)

25. As regards the restorative effects of artificial respiration the Subcommittee found it was nearly always successful if commenced within thirty seconds after the respiration ceased, very seldom successful if commenced between thirty and sixty seconds after, and always unsuccessful if not

begun till after sixty seconds. In forty-four cases in which artificial respiration proved successful it was commenced on an average 28·2 seconds after natural respiration ceased. In thirty-eight unsuccessful cases the average was 31·5 seconds.

26. The Subcommittee formed the opinion that artificial respiration was less successful in restoring the respiration after it had been stopped by chloroform in cases where a subcutaneous injection of morphia was administered before the inhalation was commenced. There were eighteen cases in which this was tried. In the first six artificial respiration was commenced eight seconds after cessation of natural respiration; of these five died. In three cases artificial respiration was begun fifteen seconds after the natural respiration ceased, and of these two recovered and one died. In three cases in which artificial respiration was commenced twenty seconds after the respiration stopped, two out of the three died; and lastly, in six cases where artificial respiration was not commenced till thirty seconds afterwards, five died and one was revived. The average of those cases that were revived was 17·6 seconds, and of those that died in this series 26·4 seconds. This opinion was tested by blood-pressure experiments Nos. 162 and 178, the results of which did not support their conclusion.

INTERVAL OF TIME BETWEEN STOPPAGE OF RESPIRATION AND STOPPAGE OF HEART.

The heart stopped beating under 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 minutes after the stoppage of the respiration.

	Minutes.											Totals.
	1	2	3	4	5	6	7	8	9	10	11	12	
In Dogs.													
In uncomplicated cases	1	10	45	53	32	16	8	3	2	2	1	..	171
In cases complicated—													
(a) By very slow and prolonged administration	2	..	..	..	..	..	..	..	..	..	..	..	2
(b) By asphyxia	4	..	..	..	..	..	..	..	..	..	..	..	4
In Monkeys.													
In uncomplicated cases	..	2	8	4	2	2	4	2	..	1	..	..	26
In Dogs. Gr.													
Injected with cocaine into peritoneum half an hour before chloroform: 1/4	..	..	..	1	1	..	..	..	..	..	..	..	2
1/3	..	..	..	..	..	2	..	..	..	..	..	..	2
1/2	..	..	..	..	1	1	..	..	..	..	..	..	2
1	..	..	..	2	1	..	..	..	..	..	..	..	3
1 1/2	..	..	..	1	1	1	..	..	..	..	..	..	3
2	..	..	..	1	1	1	..	..	..	..	..	..	3
Do. Strychnine 1/10	..	..	2	1	..	..	..	..	..	..	..	..	3
1/5	..	..	..	3	..	..	..	..	..	..	..	..	3
1/3	..	1	1	1	..	..	..	..	..	..	..	..	3
1/2	..	..	..	2	1	..	..	..	..	..	..	..	3
„ Morphine 1/4	..	1	..	2	1	1	..	..	..	..	..	..	5
„ „ 1/2	..	2	2	1	..	..	..	..	..	..	..	..	5
„ Atropine 1/100	..	..	..	2	1	..	..	..	..	..	..	..	3
„ „ 1/75	..	1	2	..	..	..	..	..	..	..	..	..	3
„ „ 1/50	..	..	1	2	..	..	..	..	..	..	..	..	3
„ „ 1/25	1	..	1	..	1	..	..	..	..	..	..	..	3
„ Morphine, gr. 1/4; Strychnine 1/50	..	..	1	..	4	..	1	1	..	..	..	..	7
„ „ „ „ 1/100	1	..	..	3	2	2	..	..	..	..	..	..	8
„ „ „ Atropine 1/75	..	..	..	..	1	..	..	..	..	..	..	..	1
„ „ „ „ 1/50	..	..	..	..	..	1	..	..	..	..	..	..	1
„ „ „ „ 1/25	..	..	..	1	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/100	..	..	..	1	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/75	..	..	..	..	1	..	..	..	..	..	..	..	1
„ „ „ „ 1/50	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/25	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/100	..	..	..	1	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/75	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ „ „ 1/50	..	..	1	..	..	..	..	..	..	..	..	..	1
„ Morphine. Gr. Atropine. Gr. Strychnine. Gr.													
„ 1/4 1/75 1/25	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ 1/50 1/50	..	..	..	..	..	1	..	..	..	..	..	..	1
„ „ 1/75 1/25	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ 1/50 1/50	..	1	..	..	1	..	..	..	..	..	..	..	1
„ „ 1/25 1/50	..	..	1	..	..	..	..	..	..	..	..	..	1
„ „ 1/25 1/25	..	..	..	..	1	..	..	1	..	..	..	..	1
„ „ 1/50 1/25	..	..	..	..	1	..	..	1	..	..	..	..	1
„ „ 1/25 1/25	..	..	..	2	1	..	..	..	..	..	..	..	3

27. The experiments carried out by the Committee with self-recording apparatus consist of Nos. 25 and 29 to No. 185 inclusive. In a certain number of cases the animal died accidentally before it was ready to be attached to the manometer, and in others for various reasons the experiment was not completed; but for the sake of convenience they have all been left in the order in which they occurred, and are described *seriatim* in the explanatory notes. A full description of the kymographs, with the aid of which the blood-pressure experiments were carried on, is given in Appendix A, and all these experiments are illustrated by photographs of the kymographic records. A few of these plates illustrate experiments in which the movements of the heart only were recorded by a simple apparatus, which is also described in Appendix A. In every case in which a tracing was obtained in has been without exception preserved, and is reproduced in this report by photography. In this way the whole of the work of the Committee recorded by the manometer has been rendered available for study at any time by anyone who is interested in the subject. The photographs are on a reduced scale; but with the aid of a 2 or 3 inch lens, and perusal of the explanatory notes on the page opposite to them, the reader will have no difficulty in deciphering and understanding the remarks recorded on the tracings. The explanatory notes, which were written partly at the time of, and partly immediately after, each experiment, were made from the remarks which were recorded on the manometer during the course of the experiments. It is impossible to arrange the manometer experiments so as to group together those which appear to illustrate particular points, because almost every experiment includes a variety of procedures which suggested themselves at the time as likely to elucidate something in the action of the different anæsthetics employed. An index is printed at the end of the plates, in which the anæsthetics or drugs given to the different animals, the operations per-

EXPERIMENTS WITH RECORDING APPARATUS.

formed upon them, the actions of interest taken in them, and the changes of every kind which occurred in their condition, are referred to the number of the experiment in which they took place.

28. The majority of the experiments were made upon dogs or monkeys, and a few upon horses, goats, cats, and rabbits.

29. The experiments of the Committee were designed to show the effect upon the blood pressure, heart, and respiration of the inhalation of chloroform, ether, and the A. C. E. mixture, administered in various ways and under varying conditions. The objects of the Commission were five in number:—

I. To test the suitability and safety of chloroform as an anæsthetic. The experiments with ether and the A. C. E. mixture were instituted principally for the sake of comparison with chloroform on certain points, and it is not pretended that they afford a complete exposition of the action of those agents on the system.

II. The effect of pushing the above-named anæsthetics (*a*) to a dangerous degree, and more especially until the respiration ceases; (*b*) until death results.

III. The modifications in the effects of these anæsthetics which result from (*a*) asphyxia in varying degrees and produced by various means, (*b*) from the use of drugs such as morphine, atropine, physostigmine, and others.

IV. The reality or otherwise of the alleged liability during ordinary chloroform administration to the occurrence of primary or secondary syncope or stoppage of the heart, brought about either by shock or through fatty or weak heart, or by hæmorrhage, or by changes in the position of the body. To investigate these points, in the first place a large number of operations which are reported to be especially dangerous in reference to shock were performed in every stage of anæsthesia, and numerous experiments were also made to show the effect of direct irritation of the vagus. Secondly, a number of animals were dosed with phosphorus before they were experimented on. This caused weakening of the heart by fatty degeneration of its fibres, but at the same time other complicated changes in the whole of the organs of the body not met with in the condition known as fatty heart in human beings. On the other hand, there are conditions often met with in the fatty heart, such as changes of the coronary vessels, which were not produced by the phosphorus.

V. The effect of the anæsthetics above mentioned upon different animals, more especially upon monkeys, as the nearest approach to human beings.

30. The conclusions to which the Commission has been brought by the study of these experiments are the following:—

(1) Chloroform, when given continuously by any means which ensures its free dilution with air, causes a *gradual* fall in the mean blood pressure,[7*] provided the animal's respiration is not impeded in any way, and it continues to breathe quietly without struggling or involuntary holding of the breath—as almost always happens when the chloroform is sufficiently diluted. As this fall continues, the animal first becomes insensible, then the respiration gradually ceases, and lastly the heart stops beating. If the chloroform is less diluted the fall is more rapid, but is always gradual, so long as the other conditions are maintained; and however concentrated the chloroform may be, it never causes sudden death from stoppage of the heart. The greater the degree of dilution the less rapid is the fall, until a degree of dilution is reached which no longer appreciably lowers the blood-pressure or produces anæsthesia.

(2) If the inhalation is interrupted at any stage, the fall of pressure still continues at a rate which depends altogether on the rapidity of the fall while the chloroform was being inhaled. This after-fall is probably due to absorption of a portion of the residue of chloroform in the air passages after the stoppage of the inhalation. In this way it often happens, if chloroform is given rather freely, that, though the respiration may be going on when the chloroform is discontinued, it afterwards stops.

(3) If the administration of the chloroform is stopped at an early stage, the pressure very soon begins to rise again, and gradually becomes normal; but if the chloroform is pushed further, there comes a time, not easy to define, when the blood pressure and respiration will no longer be restored spontaneously, although the heart continues to beat after the inhalation is stopped.

(4) If the fall has been very gradual, it may occasionally happen that the respiration stops completely, and still the blood-pressure rises again, the respiration recommencing spontaneously in the course of the rise. In the same way, when the inhalation has been discontinued, the respiration may stop during the after-fall of the blood pressure and begin again spontaneously. As a rule, if the respiration has stopped, or even becomes slow and feeble at the time when the inhalation is discontinued, and artificial respiration is not resorted to, the fall in blood pressure will continue until death ensues.

(5) There are two conditions which frequently disturb the gradual fall of the blood pressure—viz., struggling and holding the breath,—and it is only by great care that they can be avoided in animals.

(6) Struggling, independently of any change in the respiratory rhythm, appears generally to raise the blood pressure.[8] In one case of a dog much weakened from phosphorus[9] the pressure fell every time he struggled.

(7) When struggling is accompanied, as it often is, by acceleration of the respiration and pulse, especially if the respiration is deep and gasping, it leads to a more rapid inhalation of chloroform, and consequently to a more rapid fall of blood pressure and a greater after-fall. In order to keep the chloroform cap or inhaler in its place during the animal's struggles, the administrator is obliged to hold it down more tightly over the nose and mouth, and this materially assists in hastening the rapidity of the inhalation, and consequently of the fall in blood pressure.

(8) The effect of involuntarily holding the breath—which, as anybody can prove by experiment upon himself, must happen when an inhaler saturated with chloroform is first applied to the face—is much more remarkable, the pressure often falling with great suddenness, while the heart's action is markedly slowed.[10] As soon as the animal draws breath again, the pressure rises as suddenly as it fell, but the gasping respiration which succeeds then causes very rapid inhalation of chloroform, with immediate insensibility and a rapid fall of blood pressure, which quickly becomes dangerous.

(9) The combination of struggling with alternate holding the breath and gasping, which results if chloroform is applied closely to the face without sufficient dilution with air, causes violent fluctuations, and then a speedy fall of the blood pressure, which very soon leads to a dangerous depression with deep insensibility and early stoppage of the respiration. The after-fall under these circumstances is rapid and prolonged. It is this combination of events which causes struggling animals to go under chloroform so quickly.

(10) The effect of holding the breath may occasionally cause a temporary fall of blood pressure after the chloroform inhalation has been stopped,[11] or even when the animal is quite out of chloroform.[12] This fall is recovered from directly the animal breathes again.

(11) Slight continuous asphyxia, such as is produced by pressure on the neck by straps, a badly-fitting muzzle, or hindrance of the chest movements by the legs being too tightly bound down, gives rise to exaggerated and irregular oscillations of the blood pressure, and slowing and irregularity of the heart's action. If it leads to, or is accompanied by deep gasping inspiration, it is apt, like anything else which causes this, to increase the intake of chloroform and bring about a rapid decline of blood pressure.

(12) Complete or almost complete asphyxia, as by forcibly closing the nose and mouth[13] or closing the tracheal tube after tracheotomy,[14] has an effect similar to, but more marked than, that produced by holding the breath, and the character of the trace corresponds precisely to that produced by irritation of the peripheral end of the cut vagus. The pressure falls extremely rapidly, sometimes almost to zero, and the heart's action becomes excessively slow, or even stops for a few seconds. If the Fick trace of Experiment 148 be compared with the photographic reproduction of Trace A

7* Vide especially Experiments 168, 169, and 170.

8 Vide Experiment 82.

9 Vide Experiment 161. See also Experiment 183.

10 Vide Experiments 103, 119 Fick 2, 157 Fick 4, and many others. See index under Breathholding.

11 Vide Experiment 157. 12 Vide Experiment 185.

13 Vide Experiments 148, 150, 151. 14 Vide Experiment 66.

of the Glasgow Committee, it will be seen that they are identical, and that the slow action of the heart with great fall of pressure, which the Glasgow Committee attributed to some capricious action of chloroform upon the heart, was undoubtedly due to asphyxia.

(13) This effect of asphyxia is the result of stimulation of the vagi. The proof of this is (*a*) that the trace corresponds exactly, as stated above, to that produced by direct irritation of the vagus, (*b*) division of both vagi entirely abolishes it,[15] and (*c*) the administration of atropine which paralyses the vagus also abolishes it.[16]

(14) In Trace 158 (Fick 4), which was taken during asphyxia after a full dose of atropine, it will be seen that there is an alternately slow and rapid pulse according to the phase of the respiratory movement, but no continued slowing of the heart as in vagus irritation. But there was still a distinct fall of pressure after the atropine when the breath was held, and it was thought that the slowing of the pulse above noted in this condition might be due to the disturbance of the heart from tension in the pulmonary vessels in the absence of respiratory movement, rather than to irritation of the vagi. To test this point Experiment 184 was instituted. In this experiment the dog's chest was forcibly inflated with bellows connected by a tube with the trachea, and the effect of this proceeding was to cause a fall of pressure and slowing of the heart exactly the same as involuntary holding of the breath. The dog was then poisoned with atropine, after which inflation of the chest still caused a fall of pressure, but without slowing of the heart.[17] The fall of pressure must be in some degree independent of vagus irritation, which, however, usually accompanies it.

(15) It only remains to be considered whether the slow action or temporary stoppage of the heart with great fall of pressure produced by vagus irritation is in itself an element of danger in chloroform administration, and if it is not, wherein the danger actually lies.

(16) The experiments in which deliberate irritation of the vagi was carried on during anæsthesia show unmistakably that irritation of these nerves diminishes rather than enhances the danger of anæsthetics. The effect upon the heart is never continuous, and as the vagus becomes exhausted, or when the irritation is taken off, the blood pressure rises again, as it does when the same result is produced by asphyxia. The slowing of the heart and circulation which is produced by irritation of the vagus by any cause, such as holding the breath in chloroform administration, retards the absorption and conveyance of chloroform to the nerve centres, just as holding the breath, whether voluntary or involuntary, prevents chloroform from entering the lungs; and of itself slowing or temporary stoppage of the heart in chloroform administration is not dangerous.

(17) To answer the second part of the last question in Paragraph 15 is easy enough, if it is kept in mind that the effect of vagus irritation upon the heart is never continuous; and in chloroform administration, as the pressure rises again after the slowing of the heart and temporary fall of pressure produced by any form of asphyxia, violent respiratory efforts with bounding heart's action lead, as in the case of struggling, to a rapid and dangerous inhalation of chloroform, and consequent rapid and dangerous decline in blood pressure. It is, in fact, the temporary exhaustion of the vagi after stimulation that is to be feared, and not the actual stimulation as long as it is continued.

(18) In accordance with this fact, it will be found that in chloroform administration neither holding the breath, even if involuntary, or vagus inhibition can be kept up beyond a certain time; and if the chloroform is not removed from the face, one or both of two things may happen: (*a*) when the animal breathes again, it takes deep and gasping inspirations, the lungs become filled with chloroform, and an over-dose is taken in with extreme rapidity; or (*b*) when the restraining influence of the vagus is taken off the heart, through the irritation ceasing or the nerve becoming exhausted, the heart bounds on again, and the circulation is accelerated in proportion. The blood then becomes quickly saturated with chloroform, and an over-dose is at once conveyed to the nerve centres. The theory which has hitherto been accepted is that the danger in chloroform administration consists in the slowing or stoppage of the heart by vagus inhibition. This is now shown to be absolutely incorrect. There is no doubt whatever that the controlling influence of the vagus on the heart is a safeguard, and that it is the exhaustion of the nerve which is dangerous.

(19) It can be readily understood how a condition in which the pulse is rapid and bounding, with high blood pressure, leads to more rapid absorption of chloroform from the lungs, and a more rapid propulsion of the chloroformed blood to the medulla oblongata, and consequently to a more rapid paralysis of the respiratory and vaso-motor centres and precipitous fall in the blood pressure. Such a condition is produced in some cases by ether or by division of both vagi[18] or by a full dose of atropine.[19] Not only is the poisoned blood carried more swiftly to the vital centres in these cases, but added to this there is the fact that, as the heart is already doing its utmost before the chloroform is given, it is unable to stave off by increased work the fall in pressure that occurs when the vaso-motor centre is paralysed. On the other hand, it seems clear from Experiment 92 that the direct action of chloroform upon the heart's substance is not the cause of the fall of pressure that occurs when it is inhaled.

(20) In Experiment 92 repeated injections of 20 minims of chloroform were made into the jugular vein, and its effect was not to paralyse the heart, but to produce anæsthesia and a gradual fall of blood pressure exactly as if the chloroform had been inhaled. In Experiment 72, after a considerable amount of ether had been injected into the jugular vein, and a bounding condition of pulse had been produced, the effect of injecting chloroform into the jugulars was much greater, and the fall of blood pressure much more rapid and dangerous, than in the case when chloroform alone was injected. Granting, then, the truth of Ringer's conclusions from experiments on the frog's heart (which have not been repeated and confirmed by the Commission) that chloroform has a gradual paralysing effect upon the heart's tissue, we must conclude that such an effect, in the degree in which alone it could occur in the practical inhalation of chloroform, would rather be a source of safety than of danger.

(21) The Committee discussed the advisability of cutting the vagi some time previously to experimenting on the blood pressure with chloroform. The effect of this procedure is to cause continuous rapid action and tendency to exhaustion of the heart, as well as to degeneration of the terminal branches of the nerves in the heart if the animal live sufficiently long. Such experiments might be of some interest theoretically, and also have had a practical bearing upon the condition of the heart in certain cases of chronic alcoholism; but the Committee decided not to perform them, as it considered the end to be gained did not justify the pain they would have inflicted.

(22) In Experiment 178, the case of a dog that had had morphine, remarkable slowing and even temporary cessation of the heart's action occurred again and again at the same moment as the respiration stopped,[20] but the heart invariably recovered itself, and began again to beat regularly before any steps were taken to restore the animal, and without any respiration occurring. We find in this case that it was possible to restore the animal even after unusually long intervals had been allowed to elapse between the cessation of the natural and the commencement of artificial respiration. The failure of the heart, if such it can be called, instead of being a danger to the animal, proved to be a positive safeguard, by preventing the absorption of the residual chloroform and its distribution through the system.

(23) The effect of artificial respiration after the natural respiration has ceased is to cause an alternate rise and fall of small amount in the blood pressure, the trace thus formed upon the drum being a coarse imitation, altered somewhat by the shaking of the table, of the natural respiratory curve. The difference consists chiefly in the fact that the artificial rise and fall are more abrupt than in natural breathing, and that the rise always coincides with expiration or compression of the chest. After artificial respiration has been continued for a certain time, the blood pressure begins to rise again, and a little later natural respiration returns.

(24) The effect of artificial respiration in restoring an animal after the respiration had stopped was always marked.

[15] Vide Experiment 150. [16] Vide Experiment 158, Fick 4.
[17] Vide Fick, Experiments 8 and 9.

[18] Vide Experiments 151, 156. [19] Vide Experiment 80.
[20] Vide Experiment 178, Fick Readings 2 and 3, 8, 13, 18, and 26; and compare Experiment 49, Fick Readings 2 and 8, and Experiment 60, Fick Reading 3, which are similar cases, but were not so carefully observed.

In a few exceptional cases, such as Experiment 159, a phosphorous dog, and Experiment 142, a horse which had an enormous over-dose, although the artificial respiration was commenced as soon as possible after the breathing was noticed to have stopped, it was not successful.

(25) Complete stoppage of the respiration always means that an over-dose has been administered, and the over-dose may have been so great as to produce a very prolonged after-fall of blood pressure, and may thus render restoration impossible. As it is impossible to say whether, after chloroform has been pushed and then discontinued, the respiration will be restored spontaneously or not, so it is never in any case certain that artificial respiration will restore the natural respiration and blood pressure, no matter how soon it is commenced after the respiration stops. A great deal depends upon the amount of the after-fall; in some cases, even after the respiration has been restored, the pressure continues to fall and respiration again ceases, and artificial respiration then fails. We thus find respiration restored by artificial respiration while chloroform is still being absorbed, and this tends to show that artificial respiration does not merely pump the chloroform out of the blood, but exerts considerable influence in exciting the natural respiration.

(26) The time which elapses before artificial respiration succeeds in restoring natural respiration varies very greatly. In one case, Experiment 116, it was continued for eleven minutes before the first natural gasps commenced. This period is undoubtedly prolonged in some cases by a condition of physiological apnœa, which renders it unnecessary for the animal to breathe. Consequently, whenever the pressure rose considerably during artificial respiration it was stopped, and the animal then generally breathed after a few seconds.

(27) The time which may be allowed to pass with impunity before commencing artificial respiration also seems to vary considerably. This point was not particularly attended to in the manometer experiments except in Experiments 162 and 178, which were instituted to test the truth of the opinion formed by the Subcommittee that morphine had some slight action in impairing the efficiency of artificial respiration. In these cases the commencement of artificial respiration was postponed for more than two minutes after respiration ceased, and was successful; but this is certainly far above the average interval that can be allowed with safety. The success of artificial respiration in restoring the blood pressure is in some cases very remarkable; *vide* especially Experiment 40, in which the heart had apparently ceased beating,[31] and the dog was believed by everyone present to be dead, and yet recovered with artificial respiration. The success in this instance is due to the fact that chloroform had only been administered for a few seconds, and that the depression was the result, not of continuous chloroform administration until respiration ceased, but of a long and severe after-fall.

(28) It corresponds to those cases, which are so often reported, in which dangerous failure of the heart is said to have occurred some minutes after the administration of chloroform had been discontinued, and which are sometimes restored, and sometimes not, by artificial respiration. There is nothing at all sudden about the failure of the heart in these cases, but the attention of the chloroformist, which has been wandering, is suddenly called to the fact that the patient is apparently dead. When the animal was really dead, it was found in some cases that artificial respiration still maintained a small amount of mean pressure in the manometer. In others the pressure seemed to fall to the zero line between each compression of the chest.

(29) The dangers of too vigorous artificial respiration were illustrated in some of the accidental deaths. In one case the liver was badly ruptured, and in another the pleural cavity was full of blood. In three cases—Experiments 80, 92, and 103—rhythmical movements of the diaphragm were noticed after the heart had ceased beating and after the chest had been opened. It is remarkable that in two of these cases the splanchnic nerve had been divided. The third was a case in which chloroform had been injected into the jugular vein, and in this case there was a synchronous movement of the jaw as well. In all, death and stoppage of the heart had occurred gradually, and in Experiment 103 the heart was still irritable. These movements cannot be called respiration; though the last gasp of a dying animal, that ineffective jerk of the diaphragm, which is such a fatal symptom, is very likely in many cases a movement of the same character. Similar movements, which were continued much longer, occurred in Experiment 104, after the thorax was opened, while the heart was still beating. Still more remarkable convulsions of the muscles of the jaws, ears, and fore-feet occurred in Experiment 167, in the case of a dog that had been poisoned with nicotine. These movements continued at regular intervals for more than ten minutes after death, and were sufficiently forcible to jerk the handles of a pressure forceps fixed on the end of the tongue off the table at each spasm. In a rabbit, in Experiment 153, the auricles of the heart continued to beat rhythmically for three hours after it was supposed to be dead from chloroform and its thorax had been laid open. Irritability of the heart after death was noticed in many cases, but seemed to be most marked in cases where ether had been used.

(30) Chloroform injected into the heart through the jugular vein did not cause clotting of the blood, as was the case when ether was injected.

(31) In the course of the experiments of the Committee various drugs were administered in order to ascertain if they had any effect in modifying the action of chloroform. The result showed that none of them had any effect in preventing the typical descent of the blood pressure that occurs when chloroform is inhaled. Atropine, when given in a dose sufficient to paralyse the vagi, of course prevents the action of those nerves in asphyxia, and by increasing the action of the heart it appears to cause a more rapid descent in the blood pressure when chloroform is inhaled, as has been already explained. Morphine appeared in Experiment 162 to render the rise in blood pressure that occurred when the chloroform was discontinued slower and less complete, and to bring about a more or less permanent condition of anæsthesia. It may be noted that the animal used in this experiment was a monkey; and in other experiments with monkeys, when no morphine had been given, it was remarked that the animal, after a few inhalations of chloroform, would often lie quite quiet in a state of semi-insensibility for a long time without further inhalations; still this condition was much more marked in Experiment 162 than in any of the others. No action of this kind was noticed in the dog in Experiment 178, but other experiments (90 and 94) showed that pariah dogs are very indifferent to the action of morphine, and it is probable that the dose of morphine in this case was insufficient to bring about the condition noted in the monkey. The peculiar behaviour of the heart in Experiment 178 was not the result of the previous administration of morphine, for a similar phenomenon had occurred in other cases (49 and 60) in which no morphine had been given. Experiments 162 and 178 prove conclusively that morphine has no effect in shortening the period that may be allowed to elapse between the cessation of natural respiration and the commencement of artificial respiration.

(32) The other drugs used had no effect upon the action of chloroform except when their own special action became the leading feature in the case—as, for instance, during the vomiting from apomorphine (Experiment 104, Fick 9) or the convulsions produced by nicotine (Experiment 167).

(33) In order to test the alleged danger from shock during chloroform administration, the Committee performed a very large number of those operations which are reputed to be particularly dangerous in this connexion—such as extractions of teeth, evulsion of nails, section of the muscles of the eye, snipping of the skin of the anus, &c. In many cases the operation was performed when the animal was merely stupefied by the chloroform and not fully insensible. In such cases a slight variation in the blood pressure would sometimes occur, such as one would expect from the irritation of a sensory nerve or from the struggling that ensued, but in no case in any stage of anæsthesia was there anything even suggestive of syncope or failure of the heart's action. In thrusting a needle into the heart, there was often a momentary but well-marked fall of blood-pressure; but even this was absent in all other injuries. If chloroform really had any power to increase the tendency to shock in operations, it is impossible to believe that it would not have been manifested, to some degree at least, in one or other of these numerous experiments. The Commission was, however, not content with this negative result, and determined to ascertain the effect of direct irritation of the vagi during continued chloroform administration. The result of such experiments (65, 117, and others) proved that inhibition of

[31] Vide Fick Reading, 12.

the heart's action prevented, rather than assisted, the fatal effects of prolonged chloroform inhalation. An animal that was put into a condition of extreme danger (from which it could only be restored by means of artificial respiration) by inhalation of chloroform for one minute recovered spontaneously and readily after five minutes of chloroform inhalation, together with inhibition of the heart by electrical irritation of the vagus carried on simultaneously. In one of these experiments (117), chloroform was pushed for seven minutes; and during continued irritation of the vagus the animals repeatedly came round without artificial respiration. The danger really begins when the irritation is discontinued or fails to inhibit the heart, and thus enables the chloroform in the lungs to be rapidly absorbed and thrown into the system. The danger is certainly increased by deliberately pumping the chloroform into the lungs by means of artificial respiration, for animals in which this was done, although they showed a tendency to recover when the chloroform and irritation of the vagus were discontinued, afterwards died rapidly.

(34) On another occasion, during Experiment 117, the animal was very nearly killed by a comparatively short inhalation of chloroform, owing to the electrodes becoming accidentally short-circuited and failing to keep up the irritation of the vagus. Something similar occurred in Experiment 177, the effect of the irritation of the vagus passing off while the chloroform was still being pushed, and thus putting the animal into a condition of extreme and unexpected jeopardy. Nothing could be more striking than these near approaches to accidental death from failure to irritate the vagus efficiently.

(35) Other experiments were made to test the truth of the statement that chloroform increases the action of electrical stimuli applied to the vagus, and showed conclusively that it has no such effect. In one instance only[22] the inhibition seemed to be intensified as the chloroform was commenced, and diminished when it was discontinued; but apart from the fact that the supposed effect ceased much too suddenly, a repetition of the experiment on the same and other animals showed that there was in reality no such effect. The increased inhibition in this instance was due to the chloroformist compelling the attendant who was holding the electrodes to change his position, and thus making him unconsciously apply them more efficiently. When the chloroformist withdrew they were restored to their former position. This affords an instance of the care that has to be taken in making experiments if one is not to be deceived.

(36) To test the effect of shock due to vaso-motor change rather than affection of the heart, Goltz's experiment on the frog was repeated on three dogs. In one there was slight lowering of pressure, which was not extensive, and in the others no effect was produced at all. Other operations which seemed likely to produce shock, such as violent blows upon the testicle, were singularly devoid of effect. Failing to lower the blood pressure by any of these methods, recourse was had to section of the splanchnics; but the low condition of blood pressure this produced appeared, like stoppage of the heart from vagus irritation, to be a source of safety rather than of danger during chloroform administration. In this connexion Experiment 111 may be studied. There was not much external hæmorrhage, but the splanchnics were divided—a proceeding which, as is often said, bleeds the animal into his own vessels. The pressure was after this extremely low, but chloroform was repeatedly given and various other actions taken, and then chloroform had to be pushed on a saturated sponge enclosed in a cap for eleven minutes before respiration ceased.

(37) The conclusion, then, is this: Chloroform has no power of increasing the tendency to either shock or syncope during operations. If shock or syncope from any cause does occur, it prevents, rather than aggravates, the dangers of chloroform inhalation.

(38) The experiments on dogs that had been dosed with phosphorus for a few days previously show that the fatty and consequently feeble condition of the heart and other organs so produced has no effect in modifying the action of chloroform. The ease with which vagus irritation and the Glasgow trace could be produced in these animals, by even slight degrees of asphyxia,[23] was very remarkable; but this was equally the case in dogs that had been given phosphorus only a few hours before the experiment, and whose organs were not yet fatty.[24] Many of these cases were in the last stage of phosphorus poisoning, and several of their companions died without any experiment having been performed on them before or on the same day as they died (*vide* the low state of blood pressure in Experiment 163). Numerous attempts were made in these animals to produce shock by operations in the recumbent and vertical positions, but without any more result than in those that were healthy.

(39) The truth about the fatty heart appears to be that chloroform *per se* in no way endangers such a heart, but, on the contrary, by lowering the blood pressure, lessens the work that the heart has to perform, which is a positive advantage. But the mere inhalation of chloroform is only a part of the process of the administration in practice. A patient with an extremely fatty heart may die from the mere exertion of getting upon the operating table, just as he may die in mounting the steps in front of his own hall door, or from fright at the mere idea of having chloroform or of undergoing an operation, or during his involuntary struggles. Such patients must inevitably die occasionally during chloroform administration, and would do so even were attar of roses or any other harmless vapour substituted for chloroform.

(40) The effect of hæmorrhage was tested by opening the femoral artery and allowing a considerable quantity of blood (eight to twelve ounces) to escape. An immediate lowering of the blood pressure results, and this is very slowly recovered from. Such an accident, however dangerous it may be in itself, in no way affects the action of chloroform, except in so far that a patient who has been nearly bled to death would require less chloroform in his system to put him into a state of anæsthesia. The low condition of his blood pressure produced by the hæmorrhage would tend to prevent the too rapid intake of chloroform, exactly as in the case of cutting the splanchnics. (*Vide supra* sub-paragraph 36.)

(41) When the hind feet are lowered on to the floor so as to place the animal in the vertical position, a considerable fall of blood pressure in the carotid artery occurs; but when the animal is replaced on the table in the recumbent position the pressure is fully restored. Various operations were performed on animals in the vertical position, but in no case was anything resembling dangerous shock produced. Inversion of the body, so that the animal stands on its head, has exactly the opposite effect, the pressure rising in the carotid artery, and again falling to its former state when the animal is replaced in the horizontal position. Inversion of the body failed to restore an animal that was in the last stage of chloroform poisoning,[25] though it raised the pressure in the usual way as long as it was continued. The change in the pressure of the blood of the carotid, which occurs when the position of the body is changed, appears therefore to be due simply to the effect of gravity.

(42) As regards the effect of chloroform upon different animals, it may be said to be the same as far as its anæsthetic action is concerned. There are certain peculiarities in its effect on the respiration and circulation connected with its local irritant action on the nostrils and fauces which are interesting to notice. Thus, when concentrated chloroform vapour is applied to the nostrils of rabbits, they hold their breath, and the heart's action is slowed at once. This is always said to be due to reflex inhibition of the heart from irritation of the nasal branches of the trigeminus reflected through the vagus, and is by no means peculiar to chloroform, but is produced equally by any irritant vapour, such as ammonia or acetic acid.

(43) In some dogs, and especially in those to which phosphorus had been given, stoppage of the respiration and slowing of the heart occurred immediately after the application of the chloroform to the face, or on forcibly pulling out the tongue,[26] and this suggests that the mechanism of cardiac arrest in them is precisely the same as it is in the rabbit. On the other hand, in rabbits, as in all other animals, it is possible to give chloroform so gently that no spasm of the chest occurs, no reflex effect is produced, and then the pressure falls in the same regular curve and with the same succession of phenomena (anæsthesia, cessation of the respiration, and lastly cessation of the heart beat) that was above described as typical of chloroform inhalation.[27]

(44) Goats have a great tendency to hold their breath

[22] Vide Experiment 117, Fick Reading 6.
[23] Vide Experiment 148.
[24] Vide Experiment 156.
[25] Vide Experiment 106.
[26] Vide Experiment 185.
[27] Vide end of Experiment 172.

while inhaling chloroform, and monkeys resemble dogs rather than rabbits, as when ammonia was held before a monkey's nose (Experiment 98) it did not cause immediate stoppage of the respiration and heart as it does in rabbits.

(45) The experiments with ether show that it is impossible to produce efficient anæsthesia with this agent unless some form of inhaler is used which thoroughly excludes the air. If an ordinary cap containing a sponge saturated with ether is applied very closely to the face, the animal generally holds its breath and struggles, and we at once get the fall of blood pressure and slowing of the heart that invariably occur under these circumstances.[28] If the ether is continued in this way after the animal has recommenced breathing, a condition of semi-anæsthesia results, in which the cornea is sometimes sensitive and sometimes insensitive, and the pressure rises and falls alternately to a slight amount and forms a wavy trace, which may be continued right round the drum[29] without any particular change. As soon as air is rigidly excluded, the pressure commences to fall gradually exactly in the same way as with chloroform, and with the same succession of phenomena—viz., first anæsthesia, then cessation of the respiration, then of the heart movements, and finally death.[30] How far this is due to ether and how far to the results of asphyxia it is impossible to say, but an exactly similar succession of events can be brought about by making the animal inhale carbonic acid gas alone.[31]

(46) If surgeons choose to be content with a condition of semi-anæsthesia, it can no doubt be produced with perfect safety, though with discomfort to the patient, by ether held rather closely over the mouth. Such a condition of imperfect anæsthesia would never be accepted by any surgeon accustomed to operate under chloroform. If more perfect anæsthesia is required, it can be procured by excluding the air more rigidly, but then there is exactly the same danger as in giving chloroform. How very suddenly and rapidly the pressure may fall and death ensue is well shown by Experiment 33. Ether injected into the jugular vein produces a fall of blood-pressure and anæsthesia in the same way as chloroform does,[32] but in all cases in which it was so injected large clots were found in the heart immediately after death. It is interesting to note that Claude Bernard seems to have formed a very similar opinion with regard to ether, as the following quotations from his work entitled "Leçons sur les Anesthésiques et sur l'Asphyxie," published in 1875, show. The first quotation (p. 50) is as follows:—"Aussi, un certain nombre de chirurgiens proposèrent-ils d'abandonner le chloroforme pour revenir à l'éther, dont l'usage paraissait moins à craindre. Aujourd'hui encore, les chirurgiens de Lyons emploient préférablement l'éther. On croyait le chloroforme plus dangereux que l'éther parce qu'il était plus actif; mais, en réalité, la fréquence relative des accidents par le chloroforme tenait peut-être tout simplement à ce que c'était cet agent anesthésique qu'on employait dans l'immense majorité des cas. Plusieurs discussions ont été provoquées par les partisans de l'éther, surtout par les représentants de l'école de Lyons, et il a été constaté que l'éther, lui aussi, avait produit un certain nombre d'accidents mortels. Les deux agents anesthésiques usités peuvent donc, l'un comme l'autre, entraîner quelques risques de mort, et la chirurgie humaine a conservé presque partout le chloroforme, dont l'action est plus rapide et plus complète." The second quotation, to be found on p. 101 of the same work, runs:—"Quant à l'éther et au chloroforme, leur action est à peu près la même au point de vue physiologique, sauf une différence d'intensité en faveur du chloroforme, ce qui nous fera généralement employer ce dernier corps de préférence à l'éther."

(47) The A.C.E. mixture given gently with plenty of air and the other conditions mentioned before under chloroform produces the typical chloroform trace.[33] Given freely to a struggling animal, it can produce a very rapid and dangerous fall of blood pressure.[34] In Experiment 52, Fick 4 shows very perfectly the effect on the heart of holding the breath.

ACCIDENTAL DEATHS.

31. The notes of the cases of accidental deaths that occurred during our experiments have been left amongst the other notes in the position in which each occurrence took place, and they can be readily found by a reference to the index. The fatal result was brought about either by neglecting to watch the condition of the respiration during or after the administration of chloroform, especially while the carotid artery was being exposed, or from a reckless administration of chloroform in the endeavour to check or prevent struggles. In all the cases of accidental death the usual chloroformist was absent, and no one was attending to the chloroform. The notes would have been more complete if someone could have watched the condition of the animal and noted the gradual but unheeded cessation of respiration without calling attention to it. As it is, one has to be content with the remark that the breathing was noticed to have stopped at some particular time, but there is nothing to throw any light upon the condition during the important period that immediately preceded this discovery. A similar hiatus appears in the account of accidental deaths in the human subject, and is unavoidable. These cases are probably identical with the instances referred to by Snow, "in which animals died in a sudden and what was thought unaccountable manner whilst chloroform was given to prevent the pain and struggles which would be occasioned by physiological experiments."[35] The death was not really sudden, but only rapid, and the result of reckless administration of concentrated vapour in the first instance, and careless neglect of the condition of the respiration in the second. There is no evidence whatever that a single one of them was due to paralysis or sudden stoppage of the heart, as Snow assumes to have been the case.

32. It must be remembered, in studying the tracings, that, except when it is expressly stated to the contrary, chloroform was throughout administered very freely.[36] The degree and rapidity of the fall of blood pressure are in almost all cases much greater than should be the case in administering chloroform to human beings. To avoid complicating the notes, the inhaler was kept on much more persistently, with none of those little interruptions while the cornea is being examined &c. which always occur in practice. The whole series, with few exceptions, may be characterised as examples of reckless administration of chloroform, and accidental deaths would have been much more numerous had it not been that, when once the animal was connected with the manometer, it was kept under the most careful observation. Experiment 79 affords a most interesting exception. The chloroformist, though present in body, was absent in mind, and failed to observe and report the cessation of the respiration. The chloroform was, in consequence, pushed much further than it should have been, and the animal died sooner than was intended.

33. These cases are of themselves quite sufficient to show that animals are just as liable to death from the careless administration of chloroform as human beings; and the accidental deaths which occurred during the experiments of the Commission afford the best possible proof that the effects of chloroform are identical in the lower animals and in the human subject. The statement so frequently made, that dogs are more resistant to chloroform than human beings, is entirely incorrect.

PRACTICAL CONCLUSIONS.

34. The following are the practical conclusions which the Commission think may fairly be deduced from the experiments recorded in this report:—

I. The recumbent position on the back and absolute freedom of respiration are essential.

II. If during an operation the recumbent position on the back cannot, from any cause, be maintained during chloroform administration, the utmost attention to the respiration is necessary to prevent asphyxia or an overdose. If there is any doubt whatever about the state of respiration, the patient should be at once restored to the recumbent position on the back.

III. To ensure absolute freedom of respiration, tight clothing of every kind, either on the neck, chest, or abdomen, is to be strictly avoided; and no assistants or bystanders should be allowed to exert pressure on any part of the patient's thorax or abdomen, even though the patient be struggling violently. If struggling does occur, it is always possible to hold the patient down by pressure on the

[28] Vide Experiments 148 and 261.
[29] Vide Experiment 146.
[30] Vide Experiment 146.
[31] Vide Experiment 160.
[32] Vide Experiment 93.
[33] Vide Experiment 45.
[34] Vide Experiments 47 and 52.
[35] Vide "Snow on Anæsthetics," page 123.
[36] It may be noted that 109 pints of chloroform and 11 pints of ether were used during the experiments of the Commission.

shoulders, pelvis, or legs without doing anything which can by any possibility interfere with the free movements of respiration.

IV. An apparatus is not essential, and ought not to be used, as, being made to fit the face, it must tend to produce a certain amount of asphyxia. Moreover, it is apt to take up part of the attention which is required elsewhere. In short, no matter how it is made, it introduces an element of danger into the administration. A convenient form of inhaler is an open cone or cap with a little absorbent cotton inside at the apex.

V. At the commencement of inhalation care should be taken, by not holding the cap too close over the mouth and nose, to avoid exciting, struggling, or holding the breath. If struggling or holding the breath do occur, great care is necessary to avoid an over-dose during the deep inspirations which follow. When quiet breathing is ensured as the patient begins to go over, there is no reason why the inhaler should not be applied close to the face; and all that is then necessary is to watch the cornea and to see that the respiration is not interfered with.

VI. In children, crying ensures free admission of chloroform into the lungs; but as struggling and holding the breath can hardly be avoided, and one or two whiffs of chloroform may be sufficient to produce complete insensibility, they should always be allowed to inhale a little fresh air during the first deep inspirations which follow. In any struggling persons, but especially in children, it is essential to remove the inhaler after the first or second deep inspiration, as enough chloroform may have been inhaled to produce deep anæsthesia, and this may only appear, or may deepen, after the chloroform is stopped (*vide supra* sub-paragraphs 2 and 9 of conclusions in paragraph 30). Struggling is best avoided in adults by making them blow out hard after each inspiration during the inhalation.

VII. The patient is, as a rule, anæsthetised and ready for the operation to be commenced when unconscious winking is no longer produced by touching the surface of the eye with the tip of the finger. The anæsthetic should never under any circumstances be pushed till the respiration stops; but when once the cornea is insensitive, the patient should be kept gently under by occasional inhalations, and not be allowed to come out and renew the stage of struggling and resistance.

VIII. As a rule, no operation should be commenced until the patient is fully under the influence of the anæsthetic, so as to avoid all chance of death from surgical shock or fright.

IX. The administrator should be guided as to the effect entirely by the respiration. His only object, while producing anæsthesia, is to see that the respiration is not interfered with.

X. If possible, the patient's chest and abdomen should be exposed during chloroform inhalation, so that the respiratory movements can be seen by the administrator. If anything interferes with the respiration in any way, however slightly, even if this occurs at the very commencement of the administration, if breath is held, or if there is stertor, the inhalation should be stopped until the breathing is natural again. This may sometimes create delay and inconvenience with inexperienced administrators, but experience will make any administrator so familiar with the respiratory functions under chloroform that he will in a short time know almost by intuition whether anything is going wrong, and be able to put it right without delay before any danger arises.

XI. If the breathing becomes embarrassed, the lower jaw should be pulled, or pushed from behind the angles, forward, so that the lower teeth protrude in front of the upper. This raises the epiglottis and frees the larynx. At the same time it is well to assist the respiration artificially until the embarrassment passes off.

XII. If by any accident the respiration stops, artificial respiration should be commenced at once, while an assistant lowers the head and draws forward the tongue with catch-forceps, by Howard's method, assisted by compression and relaxation of the thoracic walls. Artificial respiration should be continued until there is no doubt whatever that natural respiration is completely re-established.

XIII. A small dose of morphia may be injected subcutaneously before chloroform inhalation, as it helps to keep the patient in a state of anæsthesia in prolonged operations. There is nothing to show that atropine does any good in connexion with the administration of chloroform, and it may do a very great deal of harm.

XIV. Alcohol may be given with advantage before operations under chloroform, provided it does not cause excitement, and merely has the effect of giving a patient confidence and steadying the circulation.

35. The Commission has no doubt whatever that, if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety so as to do good without the risk of evil.

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EDWARD LAWRIE, Surgeon-Major.

Hyderabad, December 18th, 1889.

(True copy.)

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birkenhead Urban District.—The population of this borough now exceeds 100,000, and the death-rate during 1888 was 17·8 per 1000 living. This represents a considerable saving of life when compared with the mean of previous rates of mortality, and it is evident that during Mr. Vacher's tenure of office a very large amount of improvement has been effected which has gone to the reduction of mortality. The zymotic rate is not low; it was 2·24 per 1000; but here, again, the average for the previous ten years was much higher—viz., 3·48; and it is well known that there are difficulties as to the housing of people and otherwise in Birkenhead which tend to maintain certain forms of infectious disease, and which it will take years to remedy. Thus Birkenhead is one of the towns where typhus tends to manifest itself, and although, as Mr. Vacher implies, all that is there called typhus is certainly not that disease as properly understood, yet true typhus has to be carefully looked out for and isolated in the borough. The total number of infectious diseases notified during the year was 1546, of which 819 were measles, 438 scarlatina, and 234 typhoid fever. Unfortunately, the borough infectious hospital has never corresponded to the needs of the population, and, with only 38 beds available, no more than 67 cases were admitted. Such an amount of isolation can hardly be expected to do more than touch the fringe of the needs of Birkenhead in this respect. The disinfecting house is better appointed, and is said to have done excellent work.

Gloucestershire Combined District.—We regret to notice that there has been some secession from this district since the issue of the last report, but it is satisfactory to be able to record that there has been a substantial diminution in mortality during the period for which Dr. Bond has held office. Taking continued fever as a type of preventable disease, it appears that, whereas the mortality from this cause exhibited an average of 45 in the year when the Public Health Act, 1872, was passed, it was only 5 last year, and that the reduction has been a steady and continuous one. Few experiences could be more satisfactory, because it is well known that no such decline, with its corresponding saving of valuable life, could have been brought about apart from the adoption of sanitary measures and a skilled and intelligent administration. Taking the entire combination, the death-rate from all causes stood in 1888 at 15·1 per 1000. Referring to the works of sanitary construction carried out during the year, Dr. Bond explains that no works of any size have been effected except in connexion with the sewage of Wickwar, but there is a record of good sanitary supervision and of nuisance abatement. At the close of the report a separate sanitary history for the year is given of each of the component parts of the combined area.

South Shields Urban District.—Dr. Campbell Munro, whilst expressing satisfaction at reduced mortalities during 1888, is hardly able to attribute the result to the adoption of sanitary measures; indeed, he says that other influences besides official sanitation are at work in the same direction, and amongst these he includes the results of growing educa-

tion and the additional comforts due to increase of wages. On this and on kindred points Dr. Munro has written an interesting introduction to his report. The death-rate for 1888 was 18·2 per 1000—that is, less than for the previous six years; and there was similarly a reduction in the zymotic rate. The precautions adopted with regard to preventing the spread of infectious diseases are entered into at length, and it appears that 73 cases were admitted into the Borough Fever Hospital, with a recovery rate equal to 97·2 per cent. It is stated that the wooden hospital for small-pox is no longer tenantable, and that plans have been prepared for the erection of a permanent one. We hope it will not, like its predecessor, stand on the same somewhat restricted site as that to which patients suffering from other diseases will be removed to for purposes of isolation.

Hull Urban District.—For a population of over 200,000, and for a borough like Hull, a general death-rate of 16·3 per 1000 during 1888 must be regarded as satisfactory. The infant mortality rate was also below that for the populous towns of England and Wales, and the zymotic rate only reached 1·3 per 1000. Hull is much exposed, by reason of emigrants, canal boats, &c., to imported infection, and during the year special precautions had to be adopted to stay the progress of small-pox, which was fatal in nineteen instances. The number of infectious cases admitted into the borough hospitals was 487, and some valuable additions are now being made to the sanatorium. But a proper disinfection station is still wanted, and it is suggested that a special laundry might form part of such an institution. This is done, with great advantage to the public, at Glasgow. As regards the general work of sanitation, instructive details are given, and diagrams are appended to show how defective plumbing arrangements should be altered. A local outbreak of anthrax is also described. The report embodies some excellent tables prepared by Dr. Mason, and also a disease chart showing the localisation of deaths from the seven principal zymotic diseases.

Berkshire Combined Districts.—Dr. Woodforde is able to announce for this combination of sanitary districts not only a continued lowering of mortality, but the smallest rate during 1888 which has ever been recorded—viz., one of 14·8 per 1000. The zymotic rate, which has also been almost continuously diminishing for some years past, was 1·1 per 1000, and the deaths under one year of age to every hundred births did not exceed 10·4. The district now contains 144,673 inhabitants, and the statistics quoted go to show that sanitary progress must be credited with much of the saving of life effected. In the body of the report each district is separately described, and attention is drawn, amongst other things, to a number of occurrences of diphtheria which were inquired into during the year. The work of nuisance inspection has been steadily maintained; the number of premises visited was 9196, and a large amount of sanitary work was effected in consequence of the inspections made and the advice given.

Accrington Urban District.—Dr. Milne, who since he wrote the report now under review has been reappointed medical officer of health for the borough of Accrington, records for 1888 a death-rate of 16·7 per 1000, this being the lowest one for many years past. As the result of seven years of compulsory notification, Dr. Milne has come to the very natural conclusion that an isolation hospital would be of the greatest service to the community for the reception of cases such as scarlet fever, any efficient isolation being impossible in the ordinary dwellings of the operative classes. Small-pox, as is commonly the case, though it ought to be the least dreaded of our infectious diseases, brought matters to a deadlock in the spring, and a temporary tent hospital was erected in April last on a site that was regarded as suitable, the arrangement being referred to as a complete success, and this notwithstanding great inclemency of weather. But small-pox and other allied diseases will tend to occur in severe winter weather, and hence the corporation should no longer delay making permanent provision for their isolation. During the year 62 cases of enteric fever occurred. The attack was very fatal, causing no less than 12 deaths; and though the cases are referred to as mostly sporadic, a term which generally implies an unascertained cause, yet 11 attacks besides others from diarrhœa were during a single month traced to milk kept in a cellar which was drained directly into an old disused well containing 21 feet of black, putrid, and offensive liquid. The only exit from this filthy receptacle was into the milk cellar, the general appearance of which was very deceptive on account of its surface cleanliness. We are glad to learn that much paving of new and back streets is in progress, for such work constitutes a most important feature in general sanitary administration.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 6334 births and 5235 deaths were registered during the week ending Jan. 11th. The annual rate of mortality in these towns, which had been 23·5, 21·8, and 25·2 per 1000 in the preceding three weeks, further rose last week to 28·1; the rate was 32·4 in London and 24·5 in the twenty-seven provincial towns. During the thirteen weeks of last quarter the death-rate in these towns averaged 19·4 per 1000, and was 2·1 below the mean rate in the corresponding periods of the ten years 1879–88. The lowest rates in these towns last week were 17·4 in Birkenhead, 18·1 in Brighton, 19·1 in Halifax, and 19·4 in Nottingham and in Wolverhampton. The rates in the other towns ranged upwards to 29·0 in Leeds, 30·4 in Plymouth, 32·4 in London, and 33·8 in Manchester. The deaths referred to the principal zymotic diseases, which had been 373 and 423 in the preceding two weeks, declined again last week to 396; they included 177 from whooping-cough, 55 from measles, 49 from scarlet fever, 40 from diphtheria, 39 from "fever" (principally enteric), 36 from diarrhœa, and not one from small-pox. No death from any of these zymotic diseases was recorded during the week in Birkenhead, Halifax, or Cardiff; while they caused the highest death-rates in Norwich and Plymouth. The greatest mortality from whooping-cough occurred in Portsmouth, Liverpool, London, Wolverhampton, Hull, Bolton, and Bristol; from measles in Norwich; from scarlet fever in Plymouth; and from "fever" in Huddersfield. The 40 deaths from diphtheria in these twenty-eight towns included 26 in London, 3 in Liverpool, 3 in Salford, and 2 in Manchester. No death from small-pox was registered in any of the twenty-eight great towns. Only one case of this disease was under treatment at the end of the week in any of the Metropolitan Asylum Hospitals, and but 3 in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum and London Fever Hospitals had fallen at the end of the week to 1497, from 1594, 1609, and 1570 on the preceding three Saturdays; 71 cases were admitted to these hospitals during the week, against 103 and 122 in the preceding two weeks. The deaths referred to diseases of the respiratory organs, which had been 518, 467, and 843 in the preceding three weeks, further rose last week to 1069, and exceeded the corrected average by 522. The causes of 80, or 1·5 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Newcastle-upon-Tyne, Sunderland, Bradford, Oldham, Nottingham, and in six other smaller towns. The largest proportion of uncertified deaths were registered in Sheffield, Halifax, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·6 and 26·5 per 1000 in the preceding two weeks, further rose to 29·0 in the week ending Jan. 11th; this rate exceeded by 0·9 that which prevailed during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 15·1 and 19·4 in Greenock and Aberdeen, to 29·1 in Dundee, 32·4 in Glasgow, and 33·4 in Edinburgh. The 750 deaths in the eight towns showed a further increase of 64 upon the number in the preceeding two weeks, and included 39 which were referred to measles, 22 to whooping-cough, 13 to diphtheria, 7 to "fever" (typhus, enteric, or ill-defined), 7 to scarlet fever, 4 to diarrhœa, and 1 to small-pox; in all, 93 deaths resulted from these principal zymotic diseases, against 77 and 83 in the preceding two weeks. These 93 deaths were equal to an annual rate of 3·6 per 1000, which exceeded by 1·5 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of measles, which had been 25 and 33 in the preceding two weeks, further rose last week to 39,

of which 23 occurred in Edinburgh, and 14 in Glasgow. The 22 deaths from whooping-cough corresponded with the number in the previous week, and included 10 in Glasgow, 6 in Edinburgh, and 5 in Dundee. The deaths referred to diphtheria, which had been 8 in each of the previous three weeks, rose last week to 13; 4 were returned in Edinburgh, 3 in Glasgow, 3 in Greenock, and 2 in Dundee. The 7 fatal cases of scarlet fever included 4 in Leith and 2 in Glasgow; and of the 7 deaths from "fever" 3 occurred in Glasgow and 2 in Greenock. The death classed to small-pox was one attributed to chicken-pox in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had increased in the preceding six weeks from 121 to 205, further rose last week to 231, and exceeded the number in the corresponding week of last year by 78. The causes of 88, or nearly 12 per cent., of the deaths registered in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·9, 24·5, and 34·9 per 1000 in the preceding three weeks, further rose to 44·2 in the week ending Jan. 11th. During the thirteen weeks of last quarter the death-rate in the city averaged 26·6 per 1000, the mean rate during the same period being 17·8 in London and 20·7 in Edinburgh. The 299 deaths in Dublin last week showed a further increase of 63 upon the numbers in the preceding two weeks; they included 7 which were referred to measles, 6 to whooping-cough, 4 to "fever," 2 to scarlet fever, 1 to diarrhœa, and not one either to small-pox or diphtheria. Thus the deaths from these principal zymotic diseases, which had been 11 and 16 in the previous two weeks, further rose last week to 20; they were equal to an annual rate of 3·0 per 1000, the rate from the same diseases being 2·4 in London and 6·5 in Edinburgh, in which city a fatal epidemic of measles continues to prevail. The fatal cases of measles and of whooping-cough exceeded the numbers in recent weeks, as did also the 2 deaths from scarlet fever; the deaths referred to "fever," on the other hand, which had been 4 and 5 in the previous two weeks, declined again last week to 4. The deaths of infants were 4 below, while those of elderly persons exceeded by 5 the numbers in the previous week. Two inquest cases and 3 deaths from violence were registered; and 117, or more than a third, of the deaths occurred in public institutions. The causes of 21, or 7 per cent., of the deaths in the city were not certified.

THE NATIONAL LEPROSY FUND.

THE PRINCE OF WALES presided at a dinner at the Hôtel Métropole on Monday night in aid of the National Leprosy Fund initiated by his Royal Highness some months ago. The gathering, numbering 120, included, amongst others, the Archbishop of Canterbury, the Bishop of London, Sir James Paget, Sir George Paget, Sir Andrew Clark, Sir Joseph Fayrer, Mr. Jonathan Hutchinson, Dr. Priestley, and Dr. Russell Reynolds.

The PRINCE OF WALES, in proposing "The Queen," announced that she had graciously offered to subscribe fifty guineas to the fund. The toast having been honoured in the usual way, the Prince of Wales next proposed the toast of the evening, "The National Leprosy Fund." In the course of a speech remarkable for its earnest sympathy, he said they had met together to accomplish a great and philanthropic work, to appeal to and endeavour to obtain public sympathy in aid of the promotion of a national leprosy fund. The subject, he knew, was familiar to his hearers, and many might ask why they had not before endeavoured to mitigate the evils of so terrible a disease. He did not doubt that the charitably inclined would not hesitate to give what they could to alleviate human sufferings. He alluded to Father Damien as one who was certain to go down to posterity as a great man. They were aware that if they succeeded in collecting more than was sufficient for the medical outfit of the British empire a portion of the fund should be set apart for the endowment of two scholarships—the one to promote the study of the disease in the United Kingdom and in Europe, and the other in India, China, our colonies, and elsewhere. Leprosy was rare amongst us, and he sincerely trusted that this fund would not attract impoverished lepers to this country. From statistics the Prince showed the wide prevalence of leprosy in the Indian empire. The census of 1881 gave 131,618 lepers, but he had little doubt that at present there must be considerably over 200,000 in India, the vast majority of whom roam over the country as beggars, shunned, friendless, and uncared for, until they dropped down and died, or perhaps drowned themselves in some public well. A pathetic story was referred to of a poor Indian victim who, in all the misery of his isolation, petitioned that he might be buried alive, since in this life there was no solace for his woes or cure for his disorder. After showing how utterly inadequate the leper hospitals or special wards were to cope with such large numbers, it appeared to him imperative that something should be done, more especially as an impression prevailed that the disease was on the increase. In turning to Cape Colony, the number there was estimated at 600, but it was satisfactory to learn that the Legislative Council had dealt with the subject and intended to deal with the defects in the Robben Island leper establishments, where both the system of accommodation and the management left much to be desired. It was proposed to amend certain legal provisions in regard to the proposed system of complete segregation, so that it might be carried out with all possible kindness and consideration. In alluding to Norway, he noticed a gradual but certain diminution in the number of lepers in that country, but even the Norwegian asylums could never accommodate more than 800 at any one time. The public there were gradually becoming educated to the importance of isolation, and no doubt would appreciate the efforts of the Government for its eradication. From his own personal experience in visiting Norway he thought it was impossible to have these leper institutions better managed. In the Hawaiian Islands the number of lepers was also steadily diminishing owing to the system of isolation in the infected districts. A lady was going to Molokai to nurse the lepers, and would sail on Saturday next from Liverpool. He thought this not an improper occasion for wishing her "God speed." Englishmen were always inclined to do what they could for their fellow creatures, and he did not think he should call upon them in vain to help in an undertaking of great importance not only for our own country, but for what our country comprised, our Indian empire and our colonies.

Sir ANDREW CLARK, in speaking to the toast, said that readiness in responding to any imperative and practical work used to be a distinguishing characteristic of English civic life, a characteristic which was becoming rather imperilled in these days, in which a curious disease had arisen amongst good people. That disease was the canker of individualism. People did not recognise that they must sacrifice their peculiarities and crotchets to the life of the organisations for which they worked. However, if the old questions were asked, they might still hope for the old answers. Was the work real which they desired to promote? Was it necessary? Could it be done? And if so, how? The first was obvious and undisputed. The evidence was conclusive that not only does leprosy now exist in larger measure than in recent years, but that new germinal centres of it are springing up in various quarters; that the old centres are widening, and that there is looming before England and the world a condition of affairs which may grow and attain to such proportions as to threaten not only our civilisation, but all that is dearest in the fruits of civilsation. Old men and old methods were unavailing in the face of the prodigious strides knowledge had made within the last fifty years. They required that young men, fresh methods, and new zeal should be brought to bear on the subject. The work would be efficiently done, and there might be complete confidence that the Committee would have the impartiality and acuteness to find the right men to study the disease at proper places. Money must be forthcoming. It was a work not only to relieve suffering, but for the advancement of knowledge and the vindication of the privileges and the discharge of the duties of the great brotherhood of man.

The BISHOP OF LONDON, in proposing the toast of "The Committee," said religion had shown what devotion could be given to the great task of alleviating the misery of human beings, and it was right that science should next show what it could do in mitigating the sufferings of the lepers.

Mr. JONATHAN HUTCHINSON, President of the Royal College of Surgeons, in responding to the toast, said he

was one who felt a deep interest in the leprosy question. It had claimed his interest from the earliest period of his professional career, and did so still. He had longed for some event which should bring it before the public at large, and he avowed his conviction, founded on very considerable study of the question, that the movement now started would have for its result practically the ending of the disease. Sir George Paget had that day observed: "Is it not on the cards that the end of leprosy may be near?" His own conviction was that it was on the cards, and only earnest devotion was required to discover the causes of leprosy and the means of ending it. This might not immediately follow, but it would follow with sure and certain steps. The disease was not one which came within ordinary observation of British doctors, and it was no man's duty to study it. The tree was ripe for shaking, and it but remained to bring the whole immense amount of isolated facts to one centre to solve the puzzle of leprosy and to learn how to exterminate it. As to what his Royal Highness had said about the segregation of lepers, further investigation might prove that two opinions were tenable on that point. Lepers from Norway had passed in large numbers into the United States, but no focus of leprosy had set up there; the lepers had ceased to be lepers, or had not been capable of spreading the disease by infection or heredity. Similarly in England, the great majority of lepers improved, and in no case was there any necessity for separation. If the disease were contagious, or perpetuated by heredity, it was so only in those places where it originated. Thanking the company for the way in which they wished success to the committee, he also thanked his Royal Highness for the personal effort he had made in this matter. It was known only to the members of the committee to what extent the Prince of Wales had engaged his personal interest in the work; and without exaggeration it could be said that the commencement of the movement was due to his Royal Highness as well as the position it had now arrived at. He believed this movement would end the miseries of that most miserable section of the community—the lepers.

The ARCHBISHOP OF CANTERBURY proposed "The Health of his Royal Highness the President," and after the reply of his Royal Highness,

Sir SOMERS VINE announced that as the result of his Royal Highness's appeal £2500 had been collected in connexion with the dinner, raising the total to £7000. He stated that if a further sum of £5000 were contributed by the public, the greater portion of the work of the committee could be most effectively accomplished.

HOSPITAL ABUSE: CONFERENCE IN BIRMINGHAM.

A CONFERENCE between medical men and lay representatives from the hospitals and the committees having control of the periodical collections, together with representatives from the Charity Organisation Society and the board of Guardians, was held on Wednesday in the Council-house, Birmingham, to consider the question of hospital abuse, with any proposals for its reform. The Mayor of Birmingham presided.

In opening the proceedings, the Mayor said the subject of hospital abuse, or misuse as he preferred to term it, was an old one, and had been discussed in Birmingham in 1878. He was unable to see that a practicable solution could be found—the interests that had grown up around this matter were so divergent, whether they looked at it from the point of view of hospital subscribers, medical administrators, or patients.

Mr. PRIESTLEY SMITH said the medical profession were prepared to maintain that some reform was needed in the interests of their own body; but that was a small part of the question. The only way to obtain reform was by concerted action amongst the bodies concerned in the medical treatment of the poorer classes. The question was, Were they doing the best they could with the means at their disposal? Those means were (1) the Poor-law system; (2) the voluntary hospital system, or rather the voluntary hospitals without any system. In the want of concerted action amongst the hospitals lay many defects of which they complained. There were in Birmingham thirteen medical charities, each doing good work, but each thinking chiefly of its own importance, and anxious chiefly about its own subscription list. The main defects which this competitive system led to were that the hospitals were professing to do that which they could not adequately do, and they were doing what was unjust to those who supported the hospitals, injurious to those who used them, and an imposition on the medical profession. That could be remedied if the hospitals would determine to co-operate instead of to compete; if they would ally themselves with the guardians of the poor, on the one hand, and on the other with the true provident system. With such a body as that present, constituted as a permanent council, they would be able by careful inquiry and just discrimination to divide those who now used the hospitals—setting aside those well able to pay—into three classes. They could refer a very considerable number to the guardians of the poor; a larger number would be found who could easily, and with advantage to themselves, provide against ordinary illness by becoming the members of a well organised provident society; the third class would consist of those cases properly retained and treated in hospitals, where they would then be treated far more humanely and effectually than at present. Cases of more than ordinary difficulty, gravity, and danger requiring the special treatment of those who worked in the hospitals or the special appliances provided by those institutions, might most properly be referred to the hospitals by the provident dispensaries or by the board of guardians. As to Hospital Saturday, whilst it had been an immense success in Birmingham, the workmen who were under compulsion to contribute to it naturally felt that at a time of sickness they ought to be treated by the hospital. That claim was untenable. So long as the hospitals appealed to the public for support, and they accepted the services of unpaid medical men, so long were they charities.

Mr. JORDAN LLOYD, who was unable to be present, sent a letter, which at this stage of the meeting was read by the Mayor's secretary. He wrote that it was in the out-patient department that the abuse chiefly existed. The majority of out-patients were suffering from maladies which did not call for special skill or expensive treatment. They imagined that the hospital doctors were directly paid by the contributions from the patients themselves and the working classes, or by the donors. He felt strongly that the provident had the right to the benefits of their own providence, but not at the expense of their own class.

Mr. BALL (a working-man representative on the Hospital Saturday Committee) said a large number of hospitals depended upon the Hospital Saturday for their income, yet there were not three out of fifty of the contributors to the Hospital Saturday fund who ever troubled the hospitals. There were club doctors who did not do their duty by their patients, and those patients in some cases went to the hospitals, and it was rather hard that a man who was not being properly treated by his club doctor, yet had not sufficient to pay an independent medical man, should be allowed to die when there were hospitals open.

Mr. CHESSHIRE denied that any person had a right to demand treatment at the hospitals, and well-to-do people had no right to treatment. This question involved three points: the treatment of the poor, the maintenance of the hospitals in a proper position, and the maintenance and support of a body of medical men.

Mr. WALTER BOWEN (clerk to the guardians) said hospital charity was intended for that class of persons one remove from pauperism. Really destitute cases could be, and were, adequately dealt with by the guardians and the officers. Great care should be exercised in the giving of hospital relief, as the receipt of free medical assistance soon destroyed that self-respect which made persons so loth to apply for parish relief and eventually to become paupers. On the other hand, if there were too many restrictions, and those who really deserved and were proper cases for hospital aid found a difficulty in obtaining it, they must apply to the parish doctor and thus become paupers. Where a person applied for relief in an urgent case and he was able to pay for it, he was made to refund the money, and the order was cancelled. Could not some such system be adopted by the hospitals?

Mr. HARTLEY (hon. sec. of the Skin and Lock Hospital) could not understand why the hospital staffs could not be largely increased. The medical profession were anxious to take these appointments, and keep them as long as they

could. He considered much abuse might be prevented were the present system of registration made more efficient.

Mr. H. GRIFFITHS (Charity Organisation Society) said inquiry was absolutely necessary, or charity would be abused.

Mr. J. BARROWS, junr. (representing the General Hospital) declared that hospital abuse had been much exaggerated. Mr. Coghill, the house governor of the General Hospital, said he had only known of about half-a-dozen cases, and one of their collectors declared there were very few.

After some remarks from the Rev. W. R. THOMAS, Mr. GILBERT BARLING said that the people of whom Mr. Ball had spoken, those sent by the club doctors to the hospital, were just the kind of patients for whom the special skill of the hospital surgeons and physicians was intended.

On the motion of Mr. PRIESTLEY SMITH, seconded by Mr. WALTER BOWEN, it was agreed that a committee should be appointed, the constitution of which should be left to the Mayor, to inquire into the question of the medical treatment of the poorer classes, and report to a future meeting of the conference.

THE UNIVERSITY OF LONDON.

CONVOCATION of the University of London will meet on Tuesday next, and the agenda contains notices of several resolutions affecting the projected reconstitution of the University. However, as the scheme of the Senate is not yet in a form suitable for presentation to Convocation, these resolutions are framed so as to attack it indirectly through the proposals of the Royal Commission upon which that scheme has been based.

Mr. W. J. SPRATLING, B.Sc., will move—"That this House, while concurring in the recommendation of the Senate that [some] bachelors of medicine should receive the degree of doctor in that Faculty, is strongly of opinion that such degree should not be conferred upon mere *pass-men*, but that a certain recognised standard in this Examination *with Honours* should be decided upon, and none but those who had reached that standard should receive the higher degree, and also that the same course should be adopted with regard to Bachelors of Arts (and the M.A. degree) and Bachelors in the other Faculties."

Mr. T. TYLER, M.A., and Mr. W. T. LYNN, B.A., have a string of resolutions, all bearing on the proposed reconstitution. In the first place, they deprecate the conferring of special powers and privileges on institutions in or near London as detrimental to the interests of the provincial colleges and of the University. Secondly, they object to the proposal that students of privileged colleges and institutions should be exempted from the Matriculation Examination, as being likely to injure such institutions "as places of learning and education, by bringing into connexion with them idle and incompetent persons, and would tend also to destroy or greatly impair the value of London degrees as evidence of general knowledge and culture." Thirdly, they object to the creation of four faculties with equal powers, seeing that there is great disparity in the number of graduates in each faculty. Lastly, they will move—"That this House expresses its decided opinion that the scheme of reconstitution recommended by the University of London Commission is altogether unsuited to the wants of this University, and is therefore totally unfit to be made the basis of any new Charter."

Mr. LYNN has given notice of some resolutions suggesting changes in the subjects of matriculation; and Mr. W. L. CARPENTER, B.Sc., reminds the Senate of the resolutions passed in May, 1886, in favour of a degree for engineering students.

Dr. W. J. COLLINS will move—"That in view of the recent changes made in the examination in subjects relating to Public Health, this House respectfully urges upon the Senate the equity of conferring the degree M.D. (San. Sci.) upon those who had previously been awarded the diploma in Public Health."

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the quarterly meeting of the directors of the Fund, held on the 14th inst., T. Russell Pickthorn, Esq., Inspector-General, in the chair, the sum of £81 was distributed among the several applicants.

THE INFLUENZA EPIDEMIC.

DURING the past week there has been a notable diminution in the number of cases of influenza treated in the metropolis, so that it may be fairly inferred that the disease is already on the decline in London. If so, it will contrast with the more prolonged and severe visitations in some of the continental cities. In certain parts of England—e.g., Cambridgeshire, Huntingdonshire, and Northamptonshire, the disease is spreading; but it is declining in Essex. Many cases have occurred in the barracks in London, Sheerness, Chatham, Colchester, Windsor, Aldershot, and Devonport, the severity of the epidemic being especially marked at the last-named station. In view of the large numbers attacked, the mortality has, it may safely be said, been remarkably low. At Edinburgh, the Royal College of Physicians has offered to undertake a scientific inquiry into the disease, provided that facilities are afforded them by the City Hospital for the purpose. The malady, however, does not appear to have made much progress in Edinburgh as yet.

The following is a *résumé* of the present state of prevalence of the disease in the various London hospitals:—At Westminster Hospital the number of cases has diminished, but applicants for relief suffering from the complications and the sequelæ of the affection have greatly increased, and numerous deaths have occurred which can be clearly traced to the prevailing epidemic as the determining cause. At University College Hospital the cases this week number 271, as against 307 treated last week, and the symptoms have been tolerably uniform throughout. At Charing-cross Hospital the number of cases was as near as possible 100, and these were seen in the medical casualty department. At Middlesex Hospital the numbers have dropped from 431 last week to 393. Some of the cases here have been very severe, and rapidly terminated fatally from lung complications after admission to the wards of the hospital. Only 3 more cases have been admitted into King's College Hospital, and 10 more of the nurses have been disabled. The number of out-patients has steadily decreased, and the cases have not been severe. In the Royal Free Hospital there is also a falling off from 376 to 339 cases during the past week. At the Belgrave Hospital for Children, we learn from carefully compiled notes of the 7 cases which have occurred there that the attack has been of an extremely mild type; while the inmates of the Hospital for Sick Children, Great Ormond-street, all under twelve years of age, remain absolutely free from any attack. At St. George's Hospital only 4 fresh cases are mentioned. At St. Mary's Hospital 14 cases were treated as in-patients, but these were chiefly persons employed about the hospital, and the numbers in the out-patient department for this disease have gradually decreased from 48 to 34 per day. At St. Thomas's Hospital about 900 cases have been seen up till now, on 7 of which a peculiar rash, described as resembling the bluish-red rash seen on the cheeks in measles, has been observed, particularly on the back of the forearm and on the front of the legs. One patient, however, on whom this appearance was very marked, had had eighty grains of salicylate of soda before the rash appeared. We understand that in the Metropolitan Police the number of sufferers from the epidemic is commencing to diminish. In the middle of last week the total number of sick from all causes was about 1660. By the 12th this had increased by more than 200, but declined by about 100 on the 14th inst. The average sick list for this time of the year is between 400 and 500, in a force which numbers over 14,000 men.

BRITISH MEDICAL BENEVOLENT FUND.

THE annual general meeting of subscribers to this Fund was held on the 14th inst., at 34, Seymour-street, Portman-square, W.; Sir James Paget, Bart., F.R.S., president of the fund, presided. Amongst those present were Sir Edwin Saunders, F.R.C.S., Mr. J. F. France, Mr. Malcolm Morris, and Mr. F. Churchill, M.B.; the treasurer, Dr. Broadbent,

and both honorary secretaries, Dr. Phillips and Mr. East. From the financial statement, it appears that a sum of £1297 had been received in subscriptions, £544 in donations, making together £1841, and that 159 applicants for grants had been relieved in sums varying from £5 to £20, at a cost of £1724. These applicants are given the sum granted either at once or by instalments through the Cheque Bank. One advantage of this method of distribution lies in the fact that the sum of £140 was retained owing to the death of applicants before the grants had expired, and became again available for fresh grants. In the annuity department, a sum of £1362 10s. has been given to sixty-five annuitants of £20 each. Two Dunlap Gift annuities of £15 each were given in May from a special fund; and seven medical men have received an increase of £6 to their annuities from a fund especially raised for that purpose. The chief feature of the year in this department was the receipt of large legacies enabling the committee to invest £7000, the interest of which will be available for increasing the number of annuitants in the coming year, and thus relieve the donation department. The bequests were £1000 from Mrs. Dunlap, £450 from Mr. J. Harrison, £200 from Mr. Liddell, £20 from Miss A. Veasey, and £5000 on account from the executors of the late Mr. John Chapman, who left a large sum to be divided amongst three charities, this being one. In their report the committee noticed with regret the death of three vice-presidents, Dr. Cumberbatch, Dr. Habershon, and Mr. Webber. The last-named gentleman had acted for many years as financial secretary, to the great advantage of the Fund. In the list of honorary local secretaries three new names appear—Mr. Doyne having accepted the office for Oxford, Mr. G. Aldridge George for Dorchester, and Mr. E. P. Hardey for Hull. The most noteworthy donations of the year are as follows:—Two sums of £100 each, given anonymously through Dr. G. C. Jonson; £100 from A. O. A.; £25 from Mr. John Morgan; 20 guineas from Sir William Jenner, Bart.; £20 from Sir Richard Wallace and Dr. Phillip Frank; 15 guineas from Mr. E. Newton and Mr. John Tweedy; and £15 from Mr. Matthey. Donations of £10 10s. have also been given by the Apothecaries' Society, the treasurer, Dr. Broadbent, Dr. Habershon, Mrs. Cæsar Hawkins, Mr. F. D. Mocatta, Dr. William Ord, Mr. Herbert W. Page, Sir Edwin Saunders, Mr. Thomas Smith, and Mr. David Taylor; and of £10 by Mr. G. F. Poyndel and Mr. E. Parker Young.

The list of attendances of members of committee was then read, showing one vacancy, caused by the death of Dr. C. Royston. Dr. E. L. Birkett was elected a vice-president, and, to supply the two vacancies thus created, the names of Mr Geo. Field, late honorary financial secretary, and Mr. J. Roche Lynch were proposed and accepted. The officers of the Fund were then re-elected, and it is owing to the fact that their services are given gratuitously, with the single exception of the collector, that the whole expense of working the Fund, the amount dealt with being upwards of £10,600, is, inclusive of printing and postage, less than £120 for the year. Votes of thanks were given to Dr. Jonson, chairman of the committee, coupled with a very cordial expression of regret at his absence owing to illness; to the auditors; and to the treasurer, Dr. Broadbent, for his continued and valuable services to the Fund. Votes of thanks were also accorded to the medical press for kindly admitting notices of the Fund's wants at all times to their columns, and for assisting generally the cause of the charity.

BRITISH NURSES' ASSOCIATION.

AT a meeting of the General Council of this Association on Jan. 10th, at 20, Hanover-square, W., Dr. Page was called to the chair. Reports were read by the secretary, which showed that the membership had increased to 2571, and gave further particulars regarding the meeting held in Cambridge on July 31st. The registration scheme had been considered at some length, and referred back to the Registration Committee. Several meetings, for the reading and discussion of papers of nursing interest, had been held at 20, Hanover-square, during the winter, the first (on Nov. 17th) on the "Progress of Hygiene." The annual conversazione was held in December last, when 800 nurses were present, and with so much success that the Association was not only able to clear the entire cost, but had even derived a minute profit from it.

Regarding registration, it was pointed out by Dr. Bedford Fenwick that circulars had been sent to all the hospitals in the kingdom, explaining the scheme, inviting their co-operation, and asking for information. The replies showed that many of these declined to take any part in the scheme, others expressed ignorance of the matter and inability to take action, and some were giving the matter their consideration, and waiting to see the scheme in working order before coming forward with assistance. It was proposed by the Executive Committee that "All nurses joining the Association must have had three years' professional training, of which at least twelve months shall have been passed in a hospital—preferably a general hospital."

Miss Wood pointed out that as the old rule stood nurses producing satisfactory evidence of professional attainments and personal character were admitted, and they wanted now to make the net a little closer by adding one year's hospital training. In due course they hoped to be able to add more years of hospital training. Many had been admitted into the Association without much training, because the feeling was that there were very good nurses who had not had opportunity for it. They had now given two years to such to enable them to make up their minds whether or not they were going to join the Association.

A question was asked whether any particular hospitals were to be specified as qualifying nurses for membership, and it was explained that all applications for membership would be laid before the subcommittee for their consideration before they were accepted.

The consideration of regulations concerning midwives and monthly nurses was postponed until the next meeting of the Council.

THE HEALTH OF RUSSIA.

(FROM A CORRESPONDENT.)

(Continued from p. 99.)

EVERYWHERE in Russian towns the same filthy condition of dwellings, courts, streets, squares, and shops exists as that I have already described—the heaping up of every kind of noisome rubbish, or its ill-timed removal, causing pollution of air, soil, and water by the results of organic decomposition. Even in the two chief cities of the empire, and in the houses of the wealthy and "intelligent" classes, there are the same dirt, vermin, and disregard of the simplest hygienic principles. Among the foreign elements largely present in Russia, especially the Jewish and Tatas, there appears a strong tendency to live in the most anti-hygienic conditions, which often impart a peculiarly repulsive aspect to whole towns or quarters of towns. The Jewish population have always opposed an obstinate resistance to all sanitary regulations, whether of governmental or private initiation. The insignificant fines imposed by the justices of the peace are willingly paid, and the order remains a dead letter. Will the new local authorities (*zemskie natchalniki*) prove more energetic or more successful? Even the Senate, the penultimate administrative court of appeal, has been known to thwart hygienic measures. In the territorial town of Verny (Central Asia), noted for its repeated disastrous earthquakes, the authorities had ordered dung to be removed to a spot below the town and there converted into *kizyák* (a kind of fuel), which order the population obeyed. But the Town Council petitioned against the regulations before the Senate, and the latter conceded the right to the inhabitants to heap up the dung in the courtyards of the town from Sept. 15th to May 15th. There quickly ensued an outbreak of obstinate intermittent fever, the fruit of a too liberal interpretation of administrative law. In the districts without the towns there is no sanitary inspection, and in the towns the local bodies take no part, but all is left to the police. This may be partly due to want of resources, but more still to a want of understanding in the chosen representatives of the citizens of the utility of sanitary measures. What an energetic Prefect of Police can accomplish may be judged from the cases of Trepof and Gresser in the capital; but even the latter in a year makes many scores of regulations regarding

dwellings, shops, markets, streets, &c., which are never carried out. The shopkeeper is kept in awe by unexpected and rapidly executed raids on his establishment. Protocols, processes, and fines follow. The most obvious result of the system is that no one cleans his back staircase, his court-yard, or shop, or gives up selling all kinds of adulterated foods, of which margarine is the least offensive, till compelled so to do by a visit of the police or a citation before a court. The population generally presents a massive inertia, and never itself shows any sanitary enterprise. From every government we find reports of the pollution of the water-supply due to the dirty and ignorant habits of the people or the economy of manufacturers in getting rid of their waste products. Even in St. Petersburg there exist to this day no drains, the sewage being removed in open carts. A town filter has just been completed, thirty years after the installation of water pipes. The Town Council—a representative body, be it observed, here as elsewhere—were found till lately in opposition. Even one of the chief analysts pooh-poohed the filter because it only removed fish, molluscs, weeds, &c. At the metal gauze which forms the first filter there might be established a flourishing biological station to study the flora and fauna of the icy bottom of the Neva. An inspection of various educational establishments and manufactories (especially those called *kustarny*, of the character of village or domestic industries) has revealed the total inadequacy or absence of hygienic requirements. The same story comes from the prisons, in spite of their decenniad of reformed existence. The recent report of the Commission of Inquiry into the working of the Kursk-Kharkov-Azov Railway, on which line the Borki accident occurred a year ago, has revealed horrors of insanitation almost beyond belief. In the case of convict parties on the march to their destination in Siberia or to the Amur, the details published by Kenyon and Frost in the *Century* magazine are only corroborated by other observers. But, it must be remembered, quite similar sufferings are undergone by the *pereselentsy*, or bands of peasants migrating from European Russia to their new homes. They often carry typhus with them, and communicate it to the villages which harbour them on the road. And these ill-planned wanderings constantly end only in the return of the ruined and hunger-stricken bands to their original abodes.

To combat all these evils, the central and local authorities have hitherto done practically nothing. In the report are mentioned a few orders of a fragmentary and occasional nature, emanating from the medical and clerical authorities, and from the *zemstvo*, or local authority. A handful of *feldshers*, the lowest qualification of surgeon, were dispatched to two or three districts. The Government seldom interferes in sanitary affairs beyond collecting bulky but, as we have seen, hardly trustworthy statistics. The system of quarantine, however, which perhaps recommends itself to the official intelligence by its similarity to protection in trade, decidedly forms an exception. It has even been proposed to establish internal quarantine by declaring whole districts where cholera is raging in a state of siege. Under such a regulation the capital itself would have been isolated from 1848 to 1855. And yet the measures actually adopted have been sufficiently ruinous in their effects. Take, for example, a month's detention in the Black and Azov Seas, during which the prices of wheat fell and freights doubled. Further, the passenger traffic suffers from the insufficiency of steamers under such conditions. On one occasion the Russian Steam Company definitively declined passengers or freights for the Anatolian and Alexandrian lines, by which measure Constantinople, Asia Minor, Syria, and Egypt (where there was no cholera) became closed to Russian trade. In like manner the import trade was affected. Liquid goods subject to evaporation were thrown bodily into the sea to avoid the heavy fines for non-agreement (due to waste) with the declarations in the bills of lading. Here we see the combined effect of quarantine and the atrocious system of Russian customs. Owing to absence of employment at the wharves, the ports became filled with crowds of famished and dangerous labourers. It is further to be remarked that the town quarantines are as a rule inside the town, and the arrangements are antiquated by a century. Instances of administrative interference might be quoted which have at least their humorous side. The governor of Grodno, in abatement of an outbreak of hydrophobia, issued orders to the inhabitants "to fasten sticks to their dogs by the collar or a string, which, without incapacitating the dog from running, should impede his speed, and so assist in his capture when mad. The length and thickness of the stick should be proportional to the dimensions of the dog, but in every case the stick should be longer than the breadth of his chest." This regulation was subsequently replaced by another requiring "collars or pieces of string with rag attached to indicate the owner." Such circulars are frequently the means of bringing into notice provincial administrators, who, called from their exile to a berth in St. Petersburg, thence issue similar documents applying to all Russia.

As having an important bearing on the national health, the consumption of alcohol and its consequences require some notice. The Russian civil law takes no cognisance of drunkenness as an isolated or single case, but the *volost* (or small local court) has power to inflict punishment on peasants who are more often drunk than sober—i.e., for more days in the year. This power has in practice but little effect; there is a difficulty in determining the point when drunkenness is attained. The Russian peasant as a rule only drinks on Sundays and saints' days, which latter are fairly numerous. Thus, it even happens that for weeks not a *vedro* of *vodka* altogether is drunk in the village, when suddenly on a holiday the whole village becomes drunk. More than this, there occur times when even a whole government is plunged in drunkenness—as, e.g., in Vyátka, when they brew *kurmyshka*, or in Vólogda, *sur*. The fine and imprisonment of the French law would evidently be inapplicable to the case. But to enforce such a law in the towns would prove no less difficult. In manufacturing districts there is hardly a house without its *kabák* (drinkshop). On Allhallows the populace visit the graves of their departed, and the cemeteries exhibit a wild orgie of feasting and drunkenness. *Samovars* are set up for tea, but the libations which are poured to the living and the dead are not always of the harmless Russian washy tea. The consumption of alcohol in 1886 was a little less than in 1885, owing to the diminished prosperity, rise in price, and other causes; yet it reached 24 million vedros, from ·18 vedro per head in the northern governments, ·24 in the north-west, ·28 in the southern, ·37 in the south-west, to ·81 in the metropolitan governments (a *vedro* = 2·7 gallons). There were 49,000 places of retail sale in towns and 91,000 in country districts. At present the *kabák* is the basis of finance, producing over 250 million roubles annually excise. The abatement of drunkenness must be preceded by a reform in taxation. The example of Denmark, where, although the Legislature has conferred on the consumers powers to diminish the number of public-houses, drunkenness is rather on the increase; and the very qualified success of the Götenborg system in Sweden seems to point to moral influences as the means, rather than prohibition. In St. Petersburg, an isolated effort in the direction of cure, a private asylum for inebriates, was started a few years back, but naturally without much result. One publicist, Portugalov, proposed that the "intelligent classes, especially journalists, doctors, and persons of advanced opinions, should give up drunkenness, which would have an effect upon the people."

(To be concluded.)

THE PREVENTIVE TREATMENT OF INFECTIOUS DISEASE.

(FROM A CORRESPONDENT.)

LEADING scientific medical and sanitary authorities for a long time have been endeavouring to discover the best means by which to prevent the dissemination of infectious diseases, and the Act of last session, now come into operation, it is hoped, will materially aid medical skill in dealing with such diseases, and, as far as possible, speedily to control them. For many years the medical and sanitary authorities of Zurich have been battling with various forms of infectious disease, from time to time experimenting to discover the most effectual system by which epidemics can be subjugated; drawing certain conclusions from their experiments, they finally established two years since the system now in force as fully calculated to meet emergencies as they arise, and, as far as human skill can foresee, to bring contagious illness under either preventive or suc-

cessful treatment. Thus far the result is most gratifying, and the people generally do their best to comply with the official requirements. A description of the Zurich system is likely not only to be of interest at this juncture, but also will be advantageous to those specially charged to carry out the provisions of the English Act of last session. The following form an important part of the regulations:—A board of health for the town is established in the office of the police, whose duty is to attend to the sanitation of the town, its water-supply, and all questions affecting the health of the inhabitants. To this office all communications concerning health and sanitation must be sent; and prompt action when necessary is immediately taken by the health inspector. Every case of sickness to which a medical man is summoned must be reported by him direct to the health bureau on his first visit; if of infectious type, whether mild or virulent, no choice is permitted; his report is compulsory. All medical men are officially supplied with a book of printed forms, of which the following is a copy:—

ANNOUNCEMENT OF INFECTIOUS DISEASES.

(This certificate is to be delivered to the Board of Health of the place of abode of the patient.)

Disease ——————.
Christian and surname ——————— Male or Female.
Age ——.
Calling (if children, calling of the parents) ——————.
Place of abode ——— street ——— house No. ——— Flat.
Alleged duration of illness to date ——— days.
Private treatment since ——— (Date of the first visit's respective report).
Hospital treatment in ——— since ——— (Date of hospital admission).
——— the ——— 188—.
——— Doctor in attendance.

N.B.—That printed above and on the back which does not apply is to be struck through.

On the back of the form is printed:—

1.—Presumed source of infection unknown, or what? ——————.
2.—Is the patient domiciled here? Yes or No. ——— Has he travelled hither? Yes or No. ———. Whence? ——————.
3.—Regulations: Isolation of the patient. Yes or No. Prohibition of the visit of public meetings, schools, for all members of the family. Yes or No. Disinfection of the dwelling; of the excretal substances. Yes or No. House-arrest. Yes or No.
4.—Remarks: Sporadic or epidemic appearance ——————.

Each page is in duplicate, like a banker's cheque-book, and is 12½ in. long by 4¼ in. broad, perforated in the centre from top to bottom, and there folded so as to reduce the book size to 6¼ in. by 4¼ in. The first time a case is visited the entries are made in duplicate; the outer half is torn off, enclosed in an envelope, and sent to the police bureau, the counterfoil being retained by the doctor. These envelopes are supplied with the books, having the Board of Health address printed thereon, with a line for the official name of the sender to be written.

These letters are always sent free of postage. Notice is not necessary in non-infectious and chronic illness. Where summoned, the medical man only is required to report; dual notice to the officials, as in the English Act, is not required. Should a case of infectious disease occur in which the doctor fails to report, he is liable to a penalty of from 10 fr. to 100 fr., unless satisfactory evidence is given that the omission was unintentional; on a second omission the penalty may be increased to 200 fr. In every return of puerperal fever the doctor must give the name and address of the nurse in attendance, so that she may be brought under the more immediate regulations provided in such cases.

In every case of infectious, or possibly infectious, disease not medically attended, the parent or person in charge must immediately report the same to the health bureau. Upon receipt of such notice the medical officer visits the patient to ascertain the state of the case, and to take such steps as may be necessary to prevent the disease spreading. If the parties are in a position to pay for medical attendance, a charge is made; if not, the parish pays. Should an epidemic of small-pox occur, it is promptly met. Every case as it arises is "isolated"; for this purpose a hospital has been built in a field between two and three miles from the town, having no human habitation contiguous. Immediately a patient is declared to be suffering from this contagion he is removed to this hospital, no matter what his social status may be, whether rich or poor, with one exception only: should he be living in a private house standing by itself, surrounded by a garden of prescribed dimensions, he may remain in his house, but a special policeman is at once placed at the house, whose duty it is to prevent personal visitation of the patient by anyone not positively required; the costs of the policeman are paid by the patient or the head of the household. If the house be semi-detached and standing in a garden, the patient is not permitted to remain, but must be taken to the hospital. If small-pox should become virulent in spite of every precaution, or if cholera or any similar pest presents itself, special powers provide for a house-to-house visitation by the medical authorities in search of the disease; if necessary, they can command the attendance of the police to enforce compliance. Should any private person suspect that contagious disease exists in a house or part of a house, the persons in which are endeavouring to keep the fact within their own knowledge, then such person is required to report his suspicions to a medical man, or direct to the board of health. On this being done, private inquiries are instituted; if the suspicion is well founded, or should the inquiry fail in determining this point, a special police official is at once sent to the house to inquire direct; if confirmed, and the case has not been reported to the board of health, the person whose duty it was to report is liable to a penalty not exceeding ten francs, the payment of which may be enforced by imprisonment if necessary. The case itself is placed under medical treatment, and the charges are levied upon the parties if able to pay.

Zurich proper is one only of ten separate and distinct governments, each independent of the rest. Placed in the centre, it is surrounded by the other nine parishes or townships; the whole is comprised within the limited circle of three miles direct from the centre of the town as the crow flies, thus making a diameter of six miles. Each parish has its own separate administrative council, its police and health administrations, its independent income and expenditure, &c. For certain arrangements the whole may be in accord; for others, one or more may be in antagonism, as the council of the disagreeing parish determines; for health and sanitary purposes they are happily united. London, with its 5,000,000 inhabitants, was not constituted under one County Council until this year; but surprise may well be felt that, with a population under 100,000, the work of consolidation into one municipality still remains to be accomplished. But the people are alive to the absurdity of their local arrangements, and are taking steps to bring the whole—it is hoped in a year or two—under one government. Every case of disease more or less infectious, on being first reported to the board of health of any one of the ten divisions, is immediately notified to the other nine boards; the medical men are thus apprised of its existence, and are put on the alert for its possible appearance in their own more immediate circle. By this means slow or rapid dissemination is immediately traceable; if need be, more stringent steps can be taken to stamp it out. Already several instances are recorded in which the first case has proved to be the precursor of many. The ramifications have been tabulated, and they show the direct progress of the disease from one patient to another.

From these reports the central board of health issues weekly a most important table, giving the number of new cases occurring in the previous week. A copy of this table is sent to the doctors and members of the ten councils. This return is of a complete character; the numbers attacked in each parish enable the faculty to see the state of each, the immediate contagious disease more or less prevalent, and the exact locality in which any given epidemic has distinctly declared its presence. Should any one form of contagious disease assume a virulent type, the table can be issued daily.

THE METROPOLITAN ASYLUMS BOARD.—The first fortnightly meeting of this Board was held on Saturday afternoon at the London School Board offices, when statistics were read showing that during the four weeks ending on the 9th inst., 537 patients had been admitted, and that 1723 patients remained under treatment. Of these cases 1482 were scarlet fever, 117 diphtheria, 5 typhus, and 110 enteric fever. From these it appeared that the recent outbreak of fever was abating. Mr. R. Strong, chairman of the *Exmouth* training ship, presented a special report in reference to the serious outbreak of influenza which had occurred on that vessel. Five days after its outbreak no fewer than 225 lads were sick; the infirmary being full, 135 boys were laid on the orlop deck. None of the cases had been attended with serious results. The death was announced of Mr. P. R. Ponsford from diphtheria, contracted during the discharge of his duties as assistant medical officer, and was spoken of with regret.

Correspondence.

"Audi alteram partem."

INFLUENZA: A NOTE ON ITS TREATMENT AND ON THAT OF ITS SEQUELÆ.

To the Editors of THE LANCET.

SIRS,—In considering the treatment of influenza there are some facts in relation with the disease which it is necessary to bear in mind. It should be remembered that the duration of the uncomplicated disease varies greatly in different instances. From this it follows that if in any case the symptoms quickly subside or cease, we are not justified in saying that this results from any treatment we may have adopted. If this simple fact had been more generally appreciated and acted upon, it would have prevented the spread of much of the absurd influenza literature which has lately flooded every newspaper in the country. Dr. Wilks, in a very interesting letter which he recently addressed to me on the great influenza epidemic of 1847, refers to some memoranda made by him at the time, and says: "My notes say nothing about treatment, and for the reason, I believe, that there was no specific fixed method used for combating the disease, the ordinary rules for a feverish cold which common experience dictated being simply followed." The same treatment may reasonably be followed to-day. Judging from my own personal experience I am, however, inclined to believe that quinine in large doses may help to enable a patient seized with influenza to continue at his work longer than he would otherwise be able to do; but treatment of this sort is rarely justifiable. I may perhaps mention that in my own case I found, after having suffered all day from pain in the back and limbs and in the eyes, with a temperature at night of 101°, and having work which it was necessary for me to finish, that by taking forty grains of quinine I was able to complete the task I had in hand. There is no reason to believe that the duration of the disease was shortened by the dose. I should not give so large a dose of quinine to anyone else, nor indeed should I have taken it so freely myself had I not become tolerant of its use through treatment for a malarial fever contracted in Rome. I believe that quinine in moderate doses is useful in the treatment of influenza, and its use is at any rate free from the objections to which that of antipyrin is open. The latter preparation depresses the action of the heart, and in an exhausting disease an artificial increase of depression by drugging is by no means indicated.

Some of the after-effects of uncomplicated influenza appear to me to merit special mention. Of these, one of the most troublesome is pain in the back and limbs. This is best treated by a course of hot sea-water baths. Fortunately these are now to be had in comfort at many healthy seaside places, and I need only mention that they are equally excellent at Brighton, Eastbourne, Hastings, and Ramsgate.

Sleeplessness is another and most distressing result of influenza. The insomnia is in this instance due to malnutrition, and should be treated not by drugs but by food. The patient should take a light supper, and should have at hand during the night some form of easily assimilable food, as, for example, eggs beaten up with milk, to which a little brandy may be added. Stout is a valuable soporific. But the form of the nourishment must depend on the tastes and needs of the patient. The important fact is, that the sleeplessness is due to a want of nutrition, which it is the function of the physician to combat and overcome by the application of known physiological facts. These remarks may seem to some trivial, to others self-evident; but, nevertheless, they may serve to call attention to what are frequent omissions in practice.

I am, Sirs, yours faithfully,

York-street, Portman-square, Jan., 1890. RICHARD SISLEY.

To the Editors of THE LANCET.

SIRS,—Having recently suffered from a typical and fairly severe attack of epidemic influenza, I offer the following remarks, thinking they may be of interest to your readers.

On Boxing Day I awoke with severe pains at the back of the eyeballs, frontal headache, and pains all down my spine; also pains, aggravated by movement, symmetrically placed, and somewhat shifting in character, in all my posterior muscles, beginning at those of the neck and ending with those of the calves. The anterior muscles were quite unaffected. There was extreme prostration. The muscular pains resembled fever pains in patients whose nervous system is unusually excitable. With these symptoms were associated nausea and slight pain in the epigastrium, reminding one of a slight attack of sea-sickness. In one case seen by me sea-sickness was simulated to a remarkable degree. There was noisy, violent, spasmodic vomiting, occurring independently of, but intensified by, swallowing of food. My symptoms remained severe for two days (except when modified by treatment), and after this became milder and intermittent, the stomach symptoms vanishing. On this (the thirteenth) day they have left me for the first time. During my attack I have been subject to short fits of sneezing, accompanied with temporary running at the nose; in other words, I have had attacks simulating hay asthma. In one case seen by me inspection would have pronounced it a typical case of hay asthma. I have also had attacks of thoracic oppression, accompanied by a violent spasmodic cough, ending in the expectoration of a little mucus; that is to say, I have had an attack simulating spasmodic asthma. In the case seen by me there were fits of struggling for breath, with livid face and extreme distress. I have had præcordial oppression, with a sensation as if the heart would stop—that is, there has been nervous disturbance of the heart. Once or twice I have passed a very large quantity of urine in a very short time; in other words, I have had hysterical flows of urine. This has occurred in cases other than my own. Dr. Thorne reports cases where there was temporary albuminuria, with excess of mucus in the urine. I have had several attacks of watery painless diarrhœa, resembling that often caused by nervous excitement. Cases are reported, and I have met one, of the occurrence of globus hystericus. Fear of madness, with dread of doing something, such as jump out of the window, also occur. With these considerations in mind, it cannot be doubted that the nervous system plays a very prominent part in this disease. I will go as far as to make the following guess. Epidemic influenza attacks primarily the central nervous system, producing cerebral and spinal pain. The system acts upon other parts by nerve influence, producing in these parts a state usually variable and often transitory, falling just short of actual inflammation. Either by accidental causes or by exaggeration of the nerve influence, or by the direct attack of the disease upon these outlying parts, inflammation is set up in them. Hence complications arise which, when they affect vital parts, are extremely fatal. The present name of this disease is acknowledged to be misleading. In view of the important part which all must admit the nervous system takes in the disease, I would propose to call it "influenza nervosa" (Italian for nervous "influence"), retaining the word "influenza," pure and simple, for the severe and apparently contagious cold prevalent in England every winter. As to treatment, I found at all stages of my attack—even the first day—twenty grains of salicylate of soda entirely removed all distressing symptoms; in about twenty minutes the effect was quite magical. A change to Hastings on the ninth day seemed to do me harm.

I am, Sirs, yours faithfully,

THOS. GLOVER LYON, M.D.Cantab., &c.,

Jan. 7th, 1890. Asst. Physician, Victoria-park Hospital.

To the Editors of THE LANCET.

SIRS,—I think it would conduce to a better understanding of the present "epidemic," and perhaps tend to allay panic, if we regarded it as literally an "influenza," or "influence" of the atmosphere, which is just now, and has been for some time past, in the very condition most favourable to the germination and propagation of pathogenic spores. I hear and see on every side a dozen totally different complaints described as influenza; they cannot *all* be influenza. "Yes, different types," I am told. In one sense I suppose they are influenza; that is, I believe every kind of illness in the present state of the atmosphere tends to assume a very asthenic character—hence the prostration and nervous exhaustion attending the attacks of catarrh, bronchitis, and gastric disturbance so prevalent just now. There can be no doubt that this is a very unhealthy season, and that there is an enormous amount of sickness, but how much of it is "Russian" influenza is, to my mind, open to grave question.—I am, Sirs, yours faithfully,

Folkestone, Jan. 1890. C. EGERTON FITZGERALD, M.D.

ULCERATION OF THE DUODENUM AFTER BURNS.

To the Editors of THE LANCET.

SIRS,—During the recent discussion on this subject introduced by Dr. Hunter at the Pathological Society of London (THE LANCET, Jan. 11th, p. 81), attention was directed by several speakers to the rarity of duodenal ulceration and the small number of recorded cases. It may therefore, perhaps, be interesting to briefly mention a case recently under my care, the only instance of this affection which has been met with in the post-mortem room of the Manchester Royal Infirmary of late years. The patient, a man aged thirty-eight, was admitted into the hospital last October, suffering from extensive burns about the face, arms, and thighs, which proved fatal on the twelfth day. For the first eleven days the highest temperature recorded was 103·2°. During the last twenty-four hours the temperature rose steadily and rapidly, until shortly before death the thermometer registered 110·2°. During the last few days he complained of pain and tenderness on pressure in the epigastric region. Otherwise there were no special features in connexion with the case, nor were there any other symptoms indicative of the presence of duodenitis. At the necropsy the duodenum, especially at its commencement, was found deeply congested. Close to the pylorus were two well-defined ulcers, irregular in shape, with slightly raised edges, the largest measuring 1½ in. by ¾ in. Their bases were formed by the muscular coat, the ulceration not extending deeper than the submucous tissue. With the exception that there was marked congestion of both lungs, the other viscera were healthy.

It would be interesting to know whether a similar condition of such extreme hyperpyrexia—which is, I believe, unusual even in cases of burns—has been observed in other instances where duodenal ulceration has been met with after death. If so, it might be an argument in favour of Dr. Hunter's theory that the duodenitis is due to the excretion through the bile of some irritant (septic?) matter formed from the disintegration of the burnt tissues, which is perhaps only generated in certain cases, and the presence of which in the system is attended by marked pyrexia, as in the instance here recorded.

I am, Sirs, yours faithfully,

Manchester, Jan. 13th, 1890. F. A. SOUTHAM.

A COMBINATION OF THE WHOLE PROFESSION NEEDED.

To the Editors of THE LANCET.

SIRS,—In a former letter to you I called attention to the very serious injury done to the general medical practitioner by medical aid associations and such-like societies, which not only are without any wage-limiting rule of membership, but eagerly canvass the well-to-do tradespeople and others to join. I also gave it as my opinion that for this and other evils (such as hospital abuse &c.), by which a large part of the medical profession is grievously afflicted, the only possible remedy is a combination practically of the whole of the profession. This opinion, I see, has been strongly supported by many speakers at the different branch meetings of the British Medical Association which have recently been held for the purpose of discussing Dr. Rentoul's propositions and scheme. I would suggest that every branch of the British Medical Association, each in its own district, should commence to organise and endeavour to bring about this much-to-be-desired combination. Each branch should elect a committee to investigate as far as possible the special grievances within their district, and, after such investigation, to draw up for the guidance of the profession a few rules which in their opinion would tend to minimise, if not altogether remedy, the existent evils. These rules, having been approved of by the branch at a general meeting, should then be submitted to the Council, who should make a careful selection of a few most likely to be acceptable to a majority of the profession. Finally, it should be the strenuous endeavour of the various branches to gain the assent of the whole of the profession to be bound by these selected rules. Should by this means a very large majority of the profession be brought into unanimity, the various committees of hospitals, dispensaries, medical aid associations, clubs, &c., could be met in a friendly spirit, and any reasonable demands on the part of the profession would probably receive a favourable consideration and be yielded to. The general public, moreover, instead of, as now, taking advantage of the present cut-throat policy and lack of unanimity, would learn to respect medical men and appreciate their services at their real value, and a larger number of medical practitioners would be able to obtain a reasonable income without lowering themselves or the profession and without hardship to the public. I am, Sirs, yours truly,

Stourport, Dec. 30th, 1889. W. MOORE.

COMPULSORY VACCINATION.

To the Editors of the THE LANCET.

SIRS,—I am sorry to learn from your letter of the 9th inst. that my reply to Mr. Alfred Milnes, posted to you on the 17th ult., did not reach you.

Mr. Alfred Milnes, in his letter of Dec. 14th, insinuates that he has more reliable information with regard to the revaccination in the Perth Royal Infirmary than I can possibly have. He quotes from a letter written by one of the infirmary directors, giving the result of a conversation with the house surgeon. I quote from my own notes, and, as I had sole charge of the small-pox cases in the infirmary, most men would consider mine to be the more reliable information. To prove to your readers the worthlessness of Mr. Milnes' statements, and how competent his authorities were, I may mention that when my attention was called to the cases which I diagnosed to be small-pox three had already reached the pustular stage of the disease. There never was any doubt that those cases had not been revaccinated, and I have the written testimony of the medical officer of health to whose care they were removed that they had not been revaccinated. Of the remaining cases, four were nurses, and were never seen by the house surgeon at all. The last case was revaccinated on Oct. 4th by the house surgeon, acting under my orders, and small-pox was developed on Oct. 5th. Both of the fatal cases had only the faintest trace of one primary vaccination, and were practically unmodified cases of small-pox. This, to my mind, is a sufficient reason to account for the result.—I am, Sirs, yours truly,

Perth, Jan. 13th, 1890. JOHN T. GRAHAM.

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION, AND ITS REPORT ON ROARING IN HORSES.

To the Editors of THE LANCET.

SIRS,—Enclosed please find copy of the report of this Society on the "roarers" operated on by Professor Axe at Wolverhampton on May 24th, and adversely criticised in your issue of Dec. 21st, and again referred to on the 4th inst. On reperusal of this report, I feel confident you will admit that your remarks were somewhat inaccurate and misleading. You accuse the Association of an important omission: "The date of the operation is stated to have been May 24th, but no indication is given of the date on which the committee examined the horses. Time, however, is an important element in judging the effect of the operation." You will find the "serious omission" is on your part. "The committee met at Wolverhampton *on Sept. 20th*, and proceeded to the Albrighton Hunt Kennels, where the animals were kindly sent for their inspection." Continuing your criticism, you say: "But the most remarkable thing about this report is the reason assigned for its publication;" in proof of which you quote the following sentence: "The public have been led to form such sanguine anticipations of the success of these experiments that it is right they should know they are not always successful or unattended with risk." No such statement as this appears in the report.

Generally speaking, you condemn the Association for publishing these three unsuccessful cases. With all respect, I submit the Association was not only justified in publishing them, but would have been guilty of a "serious omission" had they suppressed the results, as you seem to suggest. In speaking of the cases in question, it must be borne in mind that they were not three extracted from a series of successful and unsuccessful ones, but were specially selected beforehand to demonstrate to the Association the

operation and its results. That these results have been so unfavourable most of us regret exceedingly, and we should have been glad had the committee been justified in issuing a more favourable report. Again, your inference that a general conclusion has been reported by the Association from these three particular cases is inaccurate. The committee were appointed solely to report on the result of three operations performed under favourable circumstances in their presence by a competent surgeon, and the subjects of which were after the operations under their complete control.

I am, Sirs, yours truly,

JOHN MALCOLM, F.R.C.V.S.,
Hon. Sec. Mid. Vet. Assoc.

Holliday-street Wharf, Birmingham, Jan. 9th, 1890.

*** The sentence to which Mr. Malcolm objects, because "no such statement appears in the report," was quoted by us from the letter forwarded to us, as we understood, from the Association, and bearing, if we remember correctly, the signature of the secretary. Can Mr. Malcolm give us any information as to the source from which that letter came, and for what purpose it was sent? Perhaps he would favour us with another copy of it. With regard to his remark that we seemed to suggest the suppression of the results of these three cases, we fail to see how such an interpretation can be fairly put on our remark that "What is required for the elucidation of the subject is a report of all the cases—not merely the successful or the unsuccessful—when a sufficient period has elapsed after the operation to permit of an accurate opinion being formed of its results." If we advocate the publication of *all* cases, how can we be supposed to suggest the suppression of some? We advocated, not suppression, but extension and impartiality.—ED. L.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday.

THE first Hospital Sunday in Liverpool was observed on Jan. 8th, 1871, the second Sunday in the year having been selected by the majority of all the clergy and ministers who were consulted. Though several attempts have been made to change the date, it still remains as at first in deference to the wishes of the majority of clergy and ministers, and so last Sunday was the twentieth anniversary of Hospital Sunday in this city. Liverpool is so large a city, being second only to London in size and population, that the success or otherwise of this means of raising funds for the medical charities becomes a matter of more than local interest. The following details are given in the report of the committee for 1889 of the nineteen years, 1871 to 1889 inclusive:—Sunday collections, £134,699; donations, £2088; Saturday Fund, £42,314; bank interest, £445; total fund, £179,548; grants to hospitals and dispensaries, £173,591; expenses, £5954. The lowest collections were (excluding the first year) £6029 in 1887, when the weather was unfavourable and the commercial depression at its worst; the highest were £8848 in 1874. The collections of last Sunday so far promise very favourably.

The Mayor, Hospital Saturday, and the Working Men.

The Mayor (Alderman Thomas Hughes) entertained at a reception in the Town-hall the working men connected with the Hospital Saturday movement. While praising them for their efforts, he expressed a strong opinion that more might be done by the working men of Liverpool for the hospitals. This is too true, as the largest amount contributed to the Hospital Saturday Fund was £3221, which was raised last year after very great efforts. This year it is expected to be very much more.

The Influenza.

There have been many cases of the ordinary influenza, but in a somewhat aggravated form. Some few cases of the Russian or epidemic form have also occurred, and at least one case has proved fatal, that of Mrs. Blundell, a leading lady in Roman Catholic circles, who resided some few miles from Liverpool. In all, nine persons were attacked in the same house; Mrs. Blundell was ailing when attacked, and was an elderly lady. The most prominent symptom was the high temperature, which reached 103°. Dr. Glynn, who was called in consultation, saw another case within a short distance of Mrs. Blundell's residence. Mr. Blundell, who was also attacked, is recovering. Mr. T. M. Dawson had some cases of influenza among the police of the south division, in which the convalescence was very slow, leaving the patients very weak.

Liverpool, Jan. 15th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Actions against Illegal Practitioners.

AT the Birmingham County Court, on the 15th inst., his Honour Judge Chalmers delivered judgment in the action brought by the Apothecaries' Company against William Welch and Jesse Key. This was for the plaintiffs, for the penalty of £20 claimed. In the case of Key, trading as Curtis and Co., judgment was given against him for the two penalties of £20 each, notice of appeal being given in each instance. The lesson taught by these prosecutions will have a beneficial effect upon the public mind, and will strengthen the hands of the profession in their endeavour to purify their legitimate calling.

Christmas at the Hospitals.

At most of the hospitals the decorations were elaborate and well executed. At the General Hospital prizes were given by Mr. J. C. Holder, and were highly appreciated by the nurses, who had spent much time and labour in the variety of the adornment of the wards. Festivities of different kinds have taken place; at the Queen's Hospital a ball was conducted with much success.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Health of Newcastle.

IT is reported that some of the river and city police are suffering from influenza. It appears certain, however, that the disease has not as yet appeared here in anything like an epidemic form. I have made extensive inquiries from practitioners in various districts of the city, and they say that they have less influenza, so far, than in ordinary years. Great preparations are made for it by the newspapers and the chemists. At a meeting of the City Sanitary Committee yesterday the engineer presented a report showing that no less than £43,000 was spent in the last six years in making new sewers and repairing old ones. According to the Registrar-General, the population of Newcastle at the time the last census was taken was 145,000, and for the last year in round numbers it was 175,000. The city engineer's calculation now is that it amounts to upwards of 180,000, and, taking this basis into account, he believed the death-rate of Newcastle upon the whole compared very favourably with the twenty-eight large towns in the country. Mr. H. E. Armstrong, the medical officer of health, also gave some statistics bearing in the same direction. This action of the sanitary officials is in consequence of an influential memorial presented to the corporation on the condition of the city, and the officials in turn state that the memorialists have been wrongly advised in their information as to the true sanitary condition of the city, and invite them to attend at the council and substantiate the statements made in their memorial, so that it appears we are at the beginning of a sanitary controversy; but if it results in an improvement in the health of Newcastle no one need complain.

Death of a Medical Coroner.

I regret to notice the death on the 6th inst. of Mr. Arthur Wood, L.S.A. Mr. Wood was also, as well as Coroner for County York, a much respected general practitioner in the dale district of North Yorks, and medical officer of Kirkby Moorside Union and Workhouse. His age was seventy-five years.

North Shields: Presentation to a Surgeon.

A large and interesting gathering of ladies and gentlemen took place on Monday last at the Town Hall, North Shields, the occasion being the presentation of a handsome silver

tray, costing between sixty and seventy guineas, to Mr. John Pickering Bates, M.R.C.S., by friends and former patients, on his retirement from practice to live in Morpeth, his native place. Mr. Bates, in a happy response, mentioned his gratification that the testimonial was not altogether from the wealthy and well-to-do; but had been also contributed to by the shillings and sixpences of the poorer classes, amongst whom he had so largely laboured for thirty-five years.

Newcastle-on-Tyne, Jan. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

EDINBURGH.

Influenza.

DR. LITTLEJOHN, in his letter to the Board of Supervision, gives information which may be of considerable value to the newspaper-reading public to which it is now accessible. He considers that most of the influenza met with in Edinburgh is of the ordinary type, and that no deaths have as yet occurred from influenza of the continental type, although in some departments where men are collected there have been outbreaks. There has certainly been no sudden onset of an epidemic type; this has been especially noticeable in the very poorest districts of the city, where no cases of influenza have occurred. Special hospital arrangements have been made for the reception of influenza patients, but though the hospital is there, the patients are not forthcoming. Dr. Littlejohn gives the symptoms of the continental form of the disease, and some very good advice as to general hygiene, and he specially recommends a wider distribution of cheap warm meals for the very poor, "notwithstanding the continuance of the genial weather which allows so much out-door work to be undertaken by them." He points out that should the attack be thereby not prevented, there can be no doubt that convalescence will be much more quickly established. He also warns the authorities not to place too much reliance on the period of comparative quiescence, and advises thorough preparation for any sudden and violent outbreak such as those of which experience has been obtained in London and abroad. In concluding his letter, he says: "There is no doubt of the infectious character of the disease, and should it break out in a virulent form it would be of importance if the first cases were at once isolated and treated in a hospital." All the doctors and newspaper men are fully alive to the importance of the occasion, and influenza patients and influenza "copy" are well to the fore, in spite of Dr. Littlejohn's report.

The Edinburgh Meat Inspection Department.

Last week a deputation from the Glasgow Town Council visited Edinburgh to examine the arrangements for the inspection of diseased meat. It is quite possible that such a deputation might learn something as to our *modus operandi*, but, from what can be made out, the system in any of our Scotch—and, it may be added, English—towns is far from perfect. There is too much individuality and private responsibility about it, and too little system. It is an easy matter to stop and condemn very bad meat, but it is not such a simple matter—and in the existing state of affairs it is sometimes even indiscreet—to condemn meat not radically bad, but which most certainly ought to be destroyed nevertheless. Until the responsibility can be thrown on to thorough rules, enforced on a regular and well systematised plan, the meat inspection in this country will be imperfect, and the meat inspector will have anything but a comfortable berth of it.

Royal Hospital for Sick Children.

At a meeting of the directors of the above institution, held on Tuesday last, it was decided that during the months of February, March, and April cliniques shall be given in the hospital, at which all ladies who are studying medicine may attend. As there are now many such lady medical students in Edinburgh, and as their practice will probably be largely amongst children, some such arrangement would necessarily have to be made sooner or later, and it is better that it should be made sooner than later, for the children's sake.

Edinburgh University Court.

The first meeting of the new University Court was held last week. Most of the business transacted was of a more or less formal nature, or was connected with the carrying on of the work of the Court. Dr. John Barlow was recognised as a teacher of Practical Physiology in Glasgow, in terms of Ordinance 8, Sec. vi. (4).

Edinburgh, Jan. 14th.

GLASGOW.

The Victoria Infirmary.

Though there has been some delay in the completion of the buildings of this infirmary, through strikes among the workmen and the fact that certain structural alterations had to be made, the opening of the institution may be looked for next month. It is expected that the opening ceremony will take place on Feb. 14th, when the Duke of Argyll, one of the patrons of the infirmary, will be present and deliver an address. The buildings now finished include the entire administrative block and a pavilion consisting of three large wards. The administrative block contains all the accommodation necessary for the infirmary when it is completed by the addition of one or more pavilions, but several of the rooms will in the meantime be occupied by patients. Accommodation will thus at first be provided for 80 patients, divided into a male and female ward, each for medical and surgical cases, a children's ward, and private wards in which paying patients may, if desired, be treated. The principal wards, corridors, and stairs will be lighted with electricity. The apparatus also for ventilation, and for the supply of pure air duly washed and warmed, is working most satisfactorily, and the temperature of the wards can be regulated to a nicety. The governors have secured the services of Miss Ross, who for the last four years has been assistant matron in the Royal Infirmary, as matron; Dr. Donald J. Mackintosh has been appointed resident medical superintendent and senior assistant. On the visiting staff have been appointed Professors E. Duncan and Alex. Napier, physicians; and Mr. A. E. Maylard and Mr. R. H. Parry, surgeons. This infirmary is already taking rank as one of the recognised and important charities of the city. In the past year over £6000 were received as legacies and added to the building fund, which now amounts to over £34,000.

"The Influenza."

There can be little doubt that Glasgow has been visited by this malady, though so far in a mild form. Catarrhs of unusual severity are extremely prevalent, and though many practitioners hesitate to pronounce them of the true "Russian" type, others are equally firm in the belief that they are now seeing numbers of cases of a kind they had not been previously familiar with. One of the evening newspapers in Glasgow, has taken an ingenious way of getting at the truth as to the presence or absence of true influenza. It sent circulars to all the medical men in and around Glasgow, asking how many cases each had so far seen, date of occurrence of first case, number of fatalities, and the leading characteristics of the ailment. From the large crop of replies sent in, the editor of the paper in question infers that there have recently been in the city about 1660 cases similar to the continental type, and about 710 of ordinary winter "influenza," a total of only 2370 cases in a population of, say, 800,000. "It is questionable whether there is more well-defined influenza just now than is usual in a 'green winter.' There is in any case no ground for alarm."

Abuse of out-door Medical Charities.

Some interest is being taken in this question just now in Glasgow, and it is heightened by the result of a scheme put in force some time ago by the directors of the Western Infirmary. In the last annual report of that institution, noticed a week or two ago in THE LANCET, it was stated that there had been a decided falling off in the number of out-door (dispensary) patients; a most unusual circumstance in a city in which every medical charity vies with its neighbours in showing increase in the numbers it relieves, and points with something like pride to such an evidence of its extending usefulness. The cause of this diminution of numbers is worth noting. About a twelvemonth ago a clerk was appointed at the infirmary, whose special duty it was to make inquiry into the circumstances of such applicants for advice and medicine as seemed to be fairly well off. In such cases the applicant's occupation was ascertained, as well as his wage, family, number of wage earners in the family, and the sum coming into his house weekly. As the result of this system of inquiry, together with the exhibition

of a placard in the waiting-room intimating that the infirmary was for the poor and not for those who could pay, there was a substantial reduction, amounting to 30 to 40 per cent., in the number of those applying for advice, and all this was done without the discovery of any known case of hardship or improper exclusion from the benefits of hospital advice. Much money and energy at present improperly expended would be saved, and would reach more of those who are its only proper recipients, if the other charities in the city instituted some similar system of inquiry, instead of granting indiscriminate relief, in the way both of advice and of medicine, to all who may think fit to apply.

Glasgow, Jan. 15th.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

The Influenza Epidemic.

THERE were some hundreds of cases of influenza last week in Dublin, but so far as I can learn the vast majority are of a mild character. Four deaths were registered last week in Dublin from influenza, but it is most probable that the disease was associated with some other affection which caused the deaths. It is reported that Mr. Henry Fitzgibbon, F.R.C.S.I., late president of the College of Surgeons, is seriously ill in Paris from an attack of the disease. At the extern departments of the various hospitals a very large number of cases have been treated, but a comparatively small number admitted into the wards. One hundred of the Dublin Metropolitan Police are on the sick list and incapacitated from duty, and the *employés* in the various banks and mercantile establishments have been sufferers from the epidemic in large numbers. The provinces have not escaped, and the disorder has appeared at Cork, Newry, Westport, Belfast, and Limerick. In the last-named place one case, that of a labourer, is said to have terminated fatally; while at Fermoy the outbreak has spread among the residents, especially the military, and several constables have been removed to hospital suffering from a pronounced type of the disease.

Royal College of Surgeons in Ireland.

On Saturday last a concert and conversazione were given in the spacious apartments attached to the College by the president, Mr. Austin Meldon. A numerous company assembled on the invitation of the president to meet the Countess of Zetland, who had consented to unveil a bust of the late Dr. John Denham, an ex-president of the College. Her Excellency having been conducted to the board-room, Mr. Meldon bade her welcome, and said that the statue which was to be unveiled was that of the late lamented Dr. Denham, a former distinguished president of the College and a master of the Rotundo Hospital. The College, recognising the advantages which it gained by his services to it for many years as one of its councillors, gladly accepted the gift of his bust from Mrs. Denham; and he would it were in his (Mr. Meldon's) power to do justice to his memory, or even adequately to express the affection he entertained for him during life, or the sorrow he felt at his death. The bust, which is an admirable likeness, has been sculptured by Miss Shaw. The concert was held in the board-room, refreshments were served in one of the museums, and a military band played in the Albert Hall of the College.

Dispensary Medical Officers, South Dublin Union.

The seven dispensary medical officers of the South Dublin Union have presented a memorial to the Dispensaries Committee, asking for an increase of £20 per annum, so as to place them on the same footing as the medical officers on the north side of the city. They allege that no increase has taken place in their salaries for twenty years; that their duties are more arduous than formerly, owing to increase of population, and the passing of the Compulsory Vaccination Act and the Registration Act. The memorialists entered minutely into the various reasons for an increase, but the committee have decided not to grant their request.

The Royal University.

Lord Chief Baron Palles has been appointed by the Crown to fill the vacancy on the Senate occasioned by the decease of Lord Granard. The other two vacancies cannot be filled up until official notification is made by the Senate to the Government that the vacancies exist.

Football Accident.

At Sligo, last week, during a football match a young man named Acheson came into collision with one of his opponents, and fell to the ground with such violence that he remained unconscious for some time. He was removed on a stretcher to the County Infirmary, but died the next day. At the inquest evidence was given that by the collision the spinal cord was injured in the cervical region.

Death of Dr. R. T. Daniell.

This gentleman, who died on the 7th inst. at South Kensington, London, was the only son of the late Surgeon William Daniell, of Dublin. Deceased was a graduate in Arts and Medicine of the University of Dublin and a Fellow of the College of Surgeons. While resident in Dublin he was connected with the Dublin Ophthalmic Institution and St. Mark's Ophthalmic Hospital.

The death is reported at Castlebar, on the 9th inst., of Claudius O'Donel, F.R.C.S.I., surgeon, Medical Staff, aged twenty-six years.

Dublin, Jan. 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

School Pressure.

IT may be remembered that in the month of August, 1887, a discussion took place at the Academy of Medicine on over-pressure in schools. The Academy recommended certain reforms, which have since been examined and approved by a Commission appointed by the Minister of Public Instruction. Dr. Brouardel, reporter of the Commission, again brought the subject before the Academy at a meeting last week, and the following propositions, which have been adopted by the Superior Council of Public Instruction, were submitted:—1. That colleges and lycées for resident boarders should be established in the country. 2. That large open spaces should be reserved for recreation. 3. That the various class-rooms should be improved as regards ventilation and lighting. 4. Increase of the number of hours of sleep for the younger pupils. 5. Diminution of the time devoted to studies, and a proportional increase of the time for recreation, for all the pupils. 6. The necessity of daily exercise and physical training for all the pupils, proportionally to their age. The Commission has also recommended the introduction of lessons on hygiene into the syllabus of the higher classes.

Tuberculosis.

In returning to the subject of the prophylaxis of tuberculosis, Professor Germain Sée treated the question in relation to contagion by the atmosphere, on which, he said, there had been nothing but assertions. It was true that Dr. Villemin had demonstrated that the bacillus tuberculosis was not inoculable; but all inoculable maladies were not contagious—for example, rabies and syphilis. The works by M. Cornet, published in Germany, show that the real source of infection is limited to the sputa, which are virulent even when diluted to $\frac{1}{100000}$th, although they do not contain microbes. It was therefore unnecessary to direct prophylactic measures against the atmosphere, but the sputa of phthisical subjects should be disinfected. They should be desired to spit in vessels filled with water, which should be emptied and disinfected frequently. In cases of death the bedding and the furniture of the bedroom should also be disinfected. One of the members reminded M. Sée that in children's hospitals contagion by the sputa was unknown, to which he replied that that was simply because children never spit. As regards the use of milk, it should be prescribed only to young children and to invalids, and it should never be given boiled, as it then becomes altered in its composition, and loses a good deal of its nutritive properties. Meat should be withheld only when it belongs to an animal affected with generalised tuberculosis. Professor Straus had demonstrated that the expired air of a tuberculous patient was extremely free from microbes. Osseous or glandular tuberculosis became contagious only through suppuration. The prescriptions against tuberculosis ought to be in the direction of perfect

cleanliness. As regards the patient himself, it must not be forgotten that phthisis is curable, and he should therefore be encouraged with the hope of recovery, provided he adheres rigorously to the rules of hygiene. Fatty substances were of great importance. In concluding his paper, Professor Sée expressed his unwillingness to accept the conclusions of the Commission.

The Influenza.

The epidemic of influenza in Paris is manifestly on the decline in almost every part of the city. In some parts it has entirely disappeared. Even the weekly report shows a great diminution in the number of deaths from other causes. In the provinces the reports are not so favourable, for, although the influenza is not fatal in itself, it causes very great inconvenience to public affairs. There is scarcely a city in France that can claim immunity from it. The epidemic has even extended to Tunis and Algiers, where it is making great havoc. The disease pervades all stations in life, and spares neither age nor sex. The President of the Republic and his family, as well as several of the Ministers and their households, have all been more or less affected. The British Ambassador, Lord Lytton, has not escaped. His lordship has been confined to his bed some days, and his condition has caused some anxiety, but he is now considered out of all danger. The nature of the present epidemic is a complete puzzle to the medical men in this country, and even the Paris Academy of Medicine has thought proper to suspend all debate on the subject until something more definite is known about it.

In my letter of the 4th inst. I referred to the remarks of the Paris physicians on the effects of alcohol on influenza, which you regarded as a strange remedy. I may now bring to your notice a still more remarkable circumstance. It is reported that in the cigar manufactories, none of the persons employed in the manufacture of cigars, or in the manipulation of tobacco, had been affected with influenza. In the tobacco manufactories of Vevey, which employ 600 hands of both sexes, not a single case occurred, notwithstanding the fact that in the town there was not a house in which someone was not suffering. At Teufenthal, in the canton of Zurich, this was also observed.

Death of Dr. Gendrin.

The death is announced of M. A. Gendrin, at the very advanced age of ninety-four years. His best known work was done upwards of half a century ago—viz., the "Histoire Anatomique des Inflammations" (1826), and his "Traité Philosophique de Médecine Pratique" (1838-41); but he made many other contributions to medical science during his long life. He was the translator of Abercrombie's work on Diseases of the Brain. M. Gendrin had a large practice, which he continued to pursue up to quite recently; but of late years he has not appeared much at the scientific societies, and has died almost forgotten by the profession.

Paris, Jan. 14th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Empress Augusta.

IN the sitting of the Berlin Medical Society on the day after the Empress Augusta's death, the President, Professor Rudolf Virchow, honoured her memory in the following words, which were heard by the members standing:—"We begin the new year under the impression of the heavy loss which the nation has suffered by the death of Her Majesty the Empress Augusta. Her name is closely connected with the history of Berlin. On all great occasions of sorrow and distress it was she who took the initiative in helping the sufferers. She understood how to gather fit persons together to found permanent institutions for the prevention of future misfortune." After specially referring to the founding of the famous Berlin hospital which bears the late Empress's name, Virchow continued: "We have also had reason to extol the interest with which she followed our endeavours to do lasting honour to the memory of Langenbeck. When the Society suggested that a monument should be erected in the famous surgeon's honour, it was she who first expressed the idea of keeping the remembrance of the deceased alive by building, instead of a monument, a Langenbeck House, to serve medical interests for all time. What a lively interest she felt in the matter to the end of her life is shown by the fact that she had a report delivered to her about it just a week before her death. The Empress has done great things in the province of the international care of the sick. In this she represented the State. The Red Cross Society was founded with her eminent co-operation. She offered and gave prizes for many special tasks. Whoever saw the Empress at work in the military hospitals during the wars could not but be astonished to see with what exactitude she caused everything to be performed, and how well she knew how to further and extend what was new in the care of the sick. In the history of modern times there is no instance of so highly placed a woman having worked like her. And, if ever war should break out again, it will be seen how much she has been able to do in preparation for the rendering of help in war. Thus the Empress will remain in the remembrance of the nation, and physicians and surgeons will be able to learn therefrom to what they have specially to devote their efforts in war."

Influenza.

At a meeting of the Society for Internal Medicine on the 6th inst., influenza was the theme. Professor Leyden stated that the present epidemic does not differ in the least from former ones, that it is dangerous for people affected by chronic diseases, that it has attacked about half of the inhabitants of Berlin, that its cause is on the whole benign, and that it is not to be compared with dengue fever. Professor Färbringer maintained that the epidemic has of late lost a good deal of its benignity, and that in the last week of 1889 its physiognomy as observed in the great Berlin hospital at Friedrichstein was nothing short of alarming. Professor Ewald opposed this opinion on the ground that in the severe and complicated cases ascribed to influenza the causality was not always demonstrable, and referred to the severe developments of the disease with inflammation of the membranes of the brain. Professors Henoch and Fraentzel maintained the infectiousness of the disease, and Dr. S. Guttmann adduced the following occurrence in support of the same opinion. The training ship *La Bretagne* is lying in the harbour of Brest with a crew of 850 men. Influenza has prevailed on board since Dec. 14th, and has attacked 244 of her crew. Its commencement dates from the arrival of an officer from Brest who was suffering from it. The training ships *Borda* and *Austerlitz*, which are lying at anchor beside her, have not had a single case yet. With a view to clearing up the various questions connected with the epidemic, Dr. Lazarus proposed a collective investigation, and the President (Professor Leyden) instructed the competent secretary (Dr. S. Guttmann) to convene the Collective Investigation Committee of the Society to draw up schedules of questions. Professor Hirsch, a most eminent authority on the history of epidemics, has written the following letter to the editor of the *German Medical Weekly*:—

"Berlin, Jan. 5th, 1890.

"My dear Colleague,—Just recovered from a very unpleasant attack of influenza, I hasten to express to you my regret that I cannot comply with your request regarding a critical report on the prevailing epidemic for your valued weekly. The news of the epidemic hitherto to hand are so scanty and so unreliable that it might be labour in vain to attempt to form out of them a faithful picture of its course and character, and it would really be hardly worth while to collect news about it, for I am convinced that it does not essentially differ in any respect from all the influenza epidemics that have hitherto been observed. The great sensation caused by the appearance of the disease is due simply and solely to the indifference of the great mass of the medical public to all that history teaches. The culminating point is the assertion of the French physicians that the epidemic in Paris is dengue, but matters are not much better among ourselves. What I had to say about influenza I said in the second edition of my 'Historico-Geographical Pathology,' and there is nothing new to hand.

"With best regards, yours most truly,

"HIRSCH."

Professor von Troeltsch.

Anton Friedrich Freiherr von Troeltsch, the most eminent of the German aurists, died on the 10th inst. at Würzburg, where he was Professor of Otiatrics. He was born in 1829. After studying law he devoted himself to natural science and medicine, passed the State examination in chemistry and physics, and then studied opthalmology under Albrecht von Gräfe in Berlin and Ferdinand von Arlt

in Vienna. In order to study the diseases of the ear, then little understood in Germany, he went to England, where Toynbee enjoyed a wide reputation as an aurist. On his return to Germany, he established himself at Würzburg as a private lecturer on the diseases of the ear, and received the first German professorship for this specialty in 1864. His greatest scientific merit is the invention of a new method of examining the ear by means of a mirror reflecting natural or artificial light. His chief works are his "Text-Book of the Diseases of the Ear," and "The Anatomy of the Ear in its Application to the Treatment and Diseases of the Organ of Hearing."

Berlin, Jan. 14th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Influenza Epidemic.

WHILE reports arrived here last week announcing a further spread of influenza in the southern provinces, the number of cases has gradually decreased in Vienna during the last day or two. It would be extremely difficult to give the number of persons who have been affected here with the disease, but I believe I am not far wrong in estimating that 70 per cent. of the population have suffered from the epidemic, the character of which has not yet been made clear by the medical profession. Up till now differences as to its infectiveness or otherwise exist among physicians of high reputation, and cases are recorded in favour of both views. Professor Nothnagel, in a recent lecture, expressed his view that the deaths from pneumonia which occurred here during the past few weeks cannot be regarded as due to influenza directly, because an epidemic of pneumonia had been observed by him before the outbreak of influenza at the end of November last, which, becoming more severe, attacked many patients convalescent from influenza. At the General Hospital some cases of influenza were observed in which the post-mortem examination proved the presence of suppurative processes in the lungs and in the pleuræ, which have not been observed till now in the course of any other disease, so that they are believed to be peculiar to the influenza. It must be also stated that the influenza simulated many other infectious diseases, and cases were reported which showed the symptoms of cholera nostras. Among the nervous symptoms the affections of the trigeminus played an important part, and besides the neuralgias of this nerve some cases were observed where ulcerations of the cornea formed the prominent feature. Such cases of real herpes corneæ have been described here as keratitis dendritica, as the eruptions followed the dendritic distribution of the branches of the fifth nerve in the cornea. The statistics of the epidemic are also complicated by numerous cases of malingering which occurred among workmen and *employés*. The Krankenkassen had to stop payments on account of the great number of applicants, but in many cases where supervision was exercised nearly 20 per cent. of the persons announced as sick were found to be healthy.

The Chair of Physiology.

On account of the retirement of Professor Bruecke, who has reached his seventieth year, a proposal to fill up the vacancy will be made by the Professorencollegium within the next few weeks. It is intended to create a second Professorship of Physiology at the same time. Professor Hering of Prague and Professor Rollett of Gratz will probably become Professor Bruecke's successors.

Vienna, Jan. 14th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Reports of the Surgeon-General.

THE annual report of the Surgeon-General is just issued. The mean total of our army during the year was 24,726. The admissions to sick report were 31,420, of which 25,415 were for disease and 6005 for injury, giving a daily or constant sick-rate of a little over 4 per cent. of the command. There were 218 deaths, equivalent to an annual death-rate of 8·15 per 1000 strength. The discharges for disability were 742, a rate of 27·75. The comparative death-rate of white and coloured soldiers was: whites 7·55, coloured 13·66 per 1000 strength. During the year 41·95 men out of every 1000 were constantly on sick report or non-effective. Compared with the rates of foreign armies, it is found that our army takes a middle place between those of Italy and Austro-Hungary (34·41 and 39·94 respectively), and Great Britain 57·69. The five most important of the classified causes of disability among the troops during the year stood in the following order in their relation to the production of non-effectiveness, injuries causing 8·36 of the total; venereal disease, 5·24; diseases of the respiratory organs, 3·87; of the digestive organs, 3·42; and malarial diseases, 3·12. These causes held the same relation in order of importance among both the white and coloured troops.

The total number of specimens in the Museum is 27,982. The number of specimens added during the year was 1298. Among the later contributions is a series of specimens showing the results of ileostomy and ileocolostomy in a dog, and a series illustrating the diseases and injuries of the eye. A careful study has been made of the skulls and skeletons collected in Arizona. These specimens are undoubtedly among the oldest human remains found in North America, a large part being at least 1000 years old. The report of this study is especially interesting and valuable in relation to American archæology and ethnology.

The library of the Surgeon-General now contains the following:—Medical journals, 28,009; medical transactions, 3981; bound theses, 1531; bound pamphlets, 1818; other medical books, 58,612; medical theses, 49,785; medical pamphlets, 91,199. The additions during the year were about 14,000 journals, books, and pamphlets.

The number of medical officers is 150, with 6 vacancies. There were 5 deaths during the year. An examining board was convened in New York in May and October, when 77 applications were made for examination. Of these, 5 were found qualified, 12 were rejected, 11 were found physically disabled, 30 withdrew after partial examination, and 19 failed to appear. There are 17 medical officers on sick leave, 9 of whom have been found incapacitated for active service and recommended for retirement by army boards. The record shows that 24, or 14 per cent., of the force assignable to professional duty are non-effective on account of sickness.

This corps consists of 141 stewards, 50 acting stewards, 588 privates, and 156 matrons. There are now 19 vacancies for stewards and 50 for acting stewards. This service is so poorly paid that it is difficult to maintain an efficient force.

With the mean strength of 24,726 officers and enlisted men, there was constantly associated an average of 13,829 civilians, of whom 2760 were adult males, 5155 adult females, and 5914 children. For this population there were 13,301 admissions and 162 deaths. There were 62 marriages, of which 18 were of officers, 34 of enlisted men, and 10 of civilians. There were 533 births, 115 being children of officers, 342 of enlisted men, and 76 of civilians.

New York, Dec. 31st, 1889.

THE SERVICES.

ADMIRALTY.—The following appointments have been made:—Surgeon Anthony Kidd and Surgeon James M. Rogers to Jamaica Hospital, and Surgeon William R. M. Young to the *Ready* (both dated Jan. 13th, 1890); Surgeon Thos. C. Rowland to Haslar Hospital and Surgeon Joseph H. Whelan, M.D., to Chatham Hospital (both dated Jan. 8th, 1890); and Surgeon Hamilton Meikle to the *Indus* (dated Jan. 14th, 1890).

BOMBAY MEDICAL ESTABLISHMENT. — Surgeon-Major Robt. Bowman to be Brigade Surgeon (dated Oct. 1st, 1889).

VOLUNTEER CORPS.—*Rifle:* 2nd Somerset: Charles Jas. Marsh to be Acting Surgeon (dated Jan. 11th, 1890).

AYLESBURY INFIRMARY.—Lady Verney has presented to this hospital a bust of her sister, Florence Nightingale, the heroine of the Crimean campaign. It is a cast taken from Sir John Steell's well-known work, which was subscribed for by the British army, and forwarded to Miss Nightingale's father.

Obituary.

GEORGE SHIELD STILES, M.R.C.S.

MR. GEORGE SHIELD STILES, surgeon, who died at Chippenham on the 3rd inst., was a son of Captain George Stiles, R.N., and was born at Wootton, near Ryde, Isle of Wight, on Dec. 30th, 1805. Mr. Stiles, who came of an old naval family long resident at Wootton, was educated at Mr. Bricknell's School at Devizes, and having declined a cadetship in the Honourable East India Company's Service (accepted by his brother, the late Colonel H. Stiles), and chosen the medical profession, was apprenticed, as was then the custom, to Mr. Nathaniel Seccombe, surgeon, at Plymouth. Mr. Stiles afterwards studied at St. George's Hospital and the Windmill-street School of Medicine, becoming a member of the Royal College of Surgeons of England in 1831; and, commencing practice in Plymouth in the same year, in conjunction with the other medical men there, he worked gratuitously during the cholera epidemic in that and the following year, being presented with the freedom of the city of Plymouth and a handsome silver-gilt snuff-box as a memento of his services. At the end of 1832 Mr. Stiles began to practise successfully at Sutton Berger, Wilts, leaving there for Chippenham in 1846, where he continued to practise until three years ago, when failing health compelled him to retire. He married, in 1834, Louisa Frances, daughter of the late Rev. Jeremiah Awdry, rector of Felsted, Essex, by whom he had a large family, seven of whom survive him.

GEORGE MOORE, M.D.

WE regret to announce the death of Dr. Moore, of Hertford-street, Mayfair, who died on Jan. 8th last, after a short illness, at the age of fifty-six. He caught a severe chill in the course of his professional duties, which rapidly developed into inflammation of the lungs. Dr. Moore began practice at Salford, near Manchester, where he held the post of house physician to the dispensary. In 1860 he moved to Shelton, near Stoke-on-Trent, where his skilful treatment in chest and throat affections, especially amongst coal-miners and potters, soon gained for him considerable celebrity. There he first made the acquaintance of the late Duchess of Sutherland, who remained his firm friend until her death in November, 1888. In 1869 he came to London, and soon acquired a reputation, especially in chest affections, to which his exceptional abilities justly entitled him, many members of the Royal Family being amongst his patients. The Princess of Wales, whom he attended for twenty years, has expressed her "deep sympathy with the bereaved family, and great personal regret for the loss of one whom she had known and valued for many years." He was the author of several books, amongst them being: "Nose and Throat Diseases," "Enlarged Tonsils curable without Cutting," "Hay Fever and Summer Catarrh," "Bronchitis and Asthma, and their Spray Treatment." In 1883 he invented a new nose inhaler, which was found of great service in hay fever and catarrh. He was very successful in his treatment of asthma by means of sprays, he being the first to introduce it into England twenty years ago. A man of great culture and knowledge, both in a general and medical sense, his professional integrity, nobility of character, sense of honour, and kindness of heart won the confidence as well as the steadfast friendship of everyone with whom he came in contact. He leaves a widow, three sons, and three daughters. The eldest son follows his father's profession, and the second is now studying medicine.

FOOTBALL CASUALTIES.—Mr. George Acheson, in a football match, on the 9th inst., between the Primrose Grange Club and the Sligo Hare and Hounds, sustained a serious injury to his spine.—A player named Storr, in a match at Keighley, on Saturday, between Keighley Shamrocks and Ingrow, had his collar-bone fractured.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination in Anatomy and Physiology at a meeting of the Board of Examiners on the 13th inst.:—

E. H. Ratchelor, G. Hepworth, and H. Keighley, students of Yorkshire College, Leeds; R. L. Chapple, of Leeds and Mr. Cooke's School of Anatomy and Physiology; T. H. Price, of Queen's College, Birmingham; A. E. Milner and C. G. Morris, of Bristol Medical School; W. E. Bond, of St. Bartholomew's Hospital; E. Du Cane, of Carmichael College, Dublin.

Anatomy only.—H. Taylor and W. Thomas, of Yorkshire College, Leeds; C. E. Brooks, A. L. Knapman, H. Litherland, and H. Richardson, of Owens College, Manchester; E. G. C. F. Atchley and A. L. Flemming, of Bristol Medical School; W. H. Allen and J. A. Hogg, of Queen's College, Birmingham; Thomas P. Stokes, of Sheffield Medical School; F. Smallwood, of University College, Liverpool; W. G. Pretsell, of Glasgow University.

Physiology only.—A. H. Bradshaw and E. Howgate, of Yorkshire College, Leeds; S. Carter, of Owens College, Manchester; J. Craigie, H. F. Cook, and H. W. Nott, of University College, Liverpool; G. Alcock and H. Lowe, of Queen's College, Birmingham; J. E. H. Phillips, of Charing-cross Hospital; Herbert Boam, of University College; W. A. Green, of Dublin and Mr. Cooke's School of Anatomy and Physiology.

Passed on the 14th inst.:—

Anatomy and Physiology.—O. W. Gange, A. E. Pryse, and H. J. Scharlieb, of University College; E. Sutton, of London Hospital; F. Elvy and G. M. Keevil, of Middlesex Hospital; V. Howard, of St. Bartholomew's Hospital and Mr. Cooke's School of Anatomy and Physiology; H. S. Maw, of St. Bartholomew's Hospital; A. T. Duka and H. G. White, of St. George's Hospital; E. E. Frazer, of Guy's Hospital.

Anatomy only.—E. M. Nelson, of Yorkshire College, Leeds; F. B. G. Stableford, of Queen's College, Birmingham; J. F. Smart, of St. Thomas's Hospital; J. D. Hessey, of Middlesex Hospital; E. D. Madge, of Middlesex Hospital and Mr. Cooke's School of Anatomy and Physiology; J. J. Mooney, of Owens College, Manchester; E. H. Bingley, E. S. Hemsted, and T. Heywood, of St. Mary's Hospital; C. E. Bashall and J. Wood, of St. Thomas's Hospital; A. Allport, of Guy's Hospital; G. R. Adcock and R. H. Crowley, of St. Bartholomew's Hospital; J. E. Owens and W. C. Orme, of London Hospital; E. Sly and C. Williams, of King's College; L. P. Tomlinson, of St. George's Hospital.

Physiology only.—H. A. Beetham, of Yorkshire College, Leeds; H. K. Hunter and H. H. Tipping, of Queen's College, Birmingham; G. H. Jones and H. E. Pittway, Middlesex Hospital; E. E. W. Roe, of Guy's Hospital; E. W. Brewerton and G. F. Holt, of St. Bartholomew's Hospital; John Kyffin, of London Hospital.

MUNIFICENT DONATION.—The treasurer of the Essex and Colchester Hospital has received a Bank of England note for £1000 from an anonymous donor.

A CORONER FINES HIMSELF.—At an inquest held at Beckenham the coroner arrived late, and, having kept the jury waiting for a considerable time, he promptly fined himself in the sum of one guinea, which was forwarded as a contribution to the funds of the local hospital.

LITERARY INTELLIGENCE.—In our review last week of Straban's "Diagnosis and Treatment of Extra-uterine Pregnancy," we inadvertently omitted mention of the name of the London publishers of the book, Messrs. Bailliere, Tindall, & Cox, King William-street, Strand. The same firm will, we are informed, in future be the publishers of the Journal of the British Dental Association, instead of Messrs. J. & A. Churchill.

MEDICAL SERVICES RECOGNISED.—Judge Bristowe, it is stated, on leaving the General Hospital, Nottingham, where he received medical treatment for injuries inflicted by a German, sent a donation of £52 10s. to the institution, besides paying the hospital expenses. Mr. T. S. Piggin, of Fletcher Gate, Nottingham, has also sent a donation of ten guineas, in recognition of medical services rendered to his son as an out-patient.

MANCHESTER MEDICAL SOCIETY.—The following is a list of office-bearers for 1890:—President: Dr. James Ross. Vice-Presidents: Drs. S. Buckley, P. H. Mules, F. A. Southam, and G. Steell. Treasurer: Dr. Glascott. Secretary: Dr. Railton. Committee: Drs. J. S. Bury, A. M. Edge, A. H. Griffith, B. J. Massiah, S. H. Owen, and W. Yeats; Messrs. H. A. G. Brooke, H. R. Hutton, F. M. Granger, F. W. Jordan, T. Jones, and G. A. Wright. The above, with the past Presidents of the Society and two representatives of the Council of Owens College, form the Committee.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, JAMES, M.D.Aber., F.R.C.S.Eng., has been appointed Medical Officer to the Borough Sanatorium, Eastbourne, vice H. S. Gabbett, M.D. Dub., M.R.C.P. Lond., resigned.

ADAMS, M. A., F.R.C.S., L.S.A., has been reappointed Medical Officer for the Borough of Maidstone.

BAXTER, R. H., L.R.C.S. Irel., L.A.H., has been appointed Surgeon to the Bristol Cotton Works, vice E. H. Warner, M.D., resigned.

BOWHAY, A., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Calstock District of the Tavistock Union.

BURGHARD, F. F., M.B. Lond., M.S., B.S., F.R.C.S., has been appointed Assistant Surgeon to King's College Hospital, vice Cheyne.

CHEYNE, W. W., M.B., C.M. Edin., F.R.C.S. Eng., has been appointed Surgeon to King's College Hospital.

CLARKE, A., L.R.C.P., M.R.C.S., has been reappointed Medical Officer to the Street Union District.

EDMONDS, GEORGE, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Derbyshire General Infirmary, vice W. Kirkpatrick, M.D., resigned.

GIBSON, T. B., M.B., C.M. Aber., has been appointed Assistant to the Professor of Pathology in Aberdeen University.

HILLYER, W. HENRY, M.R.C.S., L.R.C.P., has been appointed Medical Officer for the No. 6 District of the St. Neots Union.

JACKSON, W., M.D., L.R.C.P. Edin., D.P.H. Camb., has been appointed Honorary Medical Officer to the Victoria Hospital, Burnley.

LARKIN, F. CHARLES, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Stanley Hospital, Liverpool, vice Arthur H. Wilson, M.R.C.S.

LATHAM, GEORGE, L.R.C.S. & L.R.C.P. Edin., has been appointed Assistant Surgeon to the West Bromwich District Hospital.

MAYLARD, A. ERNEST, B.S., M.B. Lond., has been appointed Senior Visiting Surgeon to the new Victoria Infirmary, Glasgow.

MCCAUSLAND, ALBERT, M.D., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon and Agent to the Admiralty at Swanage, vice J. F. Somerville, resigned.

MILNE, THOMAS, M.D., has been reappointed Medical Officer of Health for the Accrington Urban Sanitary District.

PODE, ERNEST D. Y., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Royal Albert Hospital, Devonport, vice W. H. G. Green, resigned.

SCHACHT, F. F., M.B., has been appointed Physician to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W., vice Dr. Mackern, resigned.

SMART, A., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Sixth District of the Maidstone Union.

SOUTHEY, A. J., M.R.C.S., L.S.A., has been reappointed Medical Officer for the Colnbrook District of the Eton Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BARNSTAPLE UNION.—A Medical Man (duly qualified) to undertake the care of the sick poor within certain parishes. He will also be appointed Vaccinator for the same parishes. (Apply to the Clerk of Board of Guardians, Barnstaple.)

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, Pimlico.—House Surgeon. Board &c. found.

BOROUGH OF BEDFORD.—Public Analyst for the Borough. A fee of 1 guinea for each sample analysed to be paid.

CHELSEA HOUSE FOR WOMEN, Fulham-road, S.W.—Anæsthetist.

FISHERTON ASYLUM.—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing. (Apply to Dr. Finch, Salisbury.)

GENERAL HOSPITAL, Birmingham.—Two Assistant House Surgeons for six months. No salaries, but residence, board, and washing will be provided.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary £100 per annum, with board, residence, and washing.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70, with board &c.

MEDICAL CLUB at Great Yarmouth.—Medical Officer. Stipend £50 per annum. (Apply at the Roslyn Chambers, Ipswich.)

Births, Marriages, and Deaths.

BIRTHS.

ALLINSON.—On Jan. 9th, at Spanish-place, Manchester-square, W., the wife of Dr. T. R. Allinson, of a son.

BRATTON.—On Jan. 11th, at College Hill House, Shrewsbury, the wife of J. Allen Bratton, L.R.C.P., M.R.C.S., of a son.

COURTNEY.—On Jan. 8th, at 33, Hereford-square, South Kensington, the wife of Guy Budd Courtney, M.A., M.B. Cantab., &c., of a daughter.

DAVIES.—On Jan. 11th, at Bow-road, the wife of Hughes Reid Davies, L.R.C.P., M.R.C.S., of a daughter.

DEANE.—On Nov. 27th, at Pakhoi, China, the wife of Surgeon A. Sharp Deane, Chinese Imperial Maritime Customs Service, of a son.

ELLIS.—On Dec. 13th, at Singapore, Straits Settlements, the wife of W. Gilmore Ellis, M.D., J.P., Medical Superintendent, Government Lunatic Asylum, of a son.

GUNN.—On Jan. 8th, at 54, Queen Anne-street, Cavendish-square, the wife of R. Marcus Gunn, F.R.C.S. Eng., of a daughter.

HUGHES.—On Jan. 9th, the wife of Morgan Hughes, M.R.C.S., L.D.S. Eng., Wellesley Villas, Croydon, of a daughter.

HURRY-FENWICK.—On Jan. 8th, at 5, Old Burlington-street, W., the wife of E. Hurry-Fenwick, F.R.C.S., of a son.

LEONARD.—On Jan. 11th, the wife of Dr. Stephen Leonard, prematurely, of a daughter, who survived her birth but a few hours.

LIVERMORE.—On Jan. 14th, at Stapleton-hall-road, Stroud-green, the wife of William Livermore, M.R.C.S., L.R.C.P., of a son.

PIETERSEN.—On Friday, Jan. 10th, 1890, the wife of J. F. G. Pietersen, M.R.C.S., L.R.C.P.L., of Bannatyne, Etchingham Park, Finchley, of a son. Cape papers please copy.

RECKITT.—On Jan. 15th, at Boston, Lincolnshire, the wife of Ed. B. Reckitt, L.R.C.P. Edin., of a son.

ROBATHAN.—On Jan. 7th, at The Grove, Risca, Mon., the wife of George Beckett Robathan, Surgeon, of a son.

ROBERTSON.—On Jan. 3rd, at Rochampton, S.W., the wife of A. Milne Robertson, M.D., of a daughter.

SIMPSON.—On Nov. 27th, at Leichhardt, Sydney, the wife of Dr. Simpson, of a daughter.

SMITH.—On Jan. 8th, at Bellgray, Monifieth, N.B., the wife of Dr. R. Sinclair Smith, of a son.

VOSS.—On Nov. 28th, at Rockhampton, Queensland, the wife of F. H. Vivian Voss, F.R.C.S., of a daughter.

MARRIAGES.

ALEXANDER—WALTER.—On Jan. 9th, John Alexander, M.R.C.S., youngest son of the late Charles Linton Alexander, F.R.C.S., of Trinity-square, S.E., to Emma Eugenie K. Walter, youngest daughter of the late Edward K. Walter, of Park-road, West Dulwich.

BROWNFIELD—FEARIS.—On Jan. 8th, at St. John's Church, Sidcup, Harry Munyard Brownfield, M.R.C.S., L.R.C.P., of Petersfield, Hants, second son of S. Brownfield, Esq., of Surrey Commercial Docks, S.E., to Gertrude Maria, only daughter of the late W. T. Fearis, Esq., of Sidcup-park and Stock Exchange.

DEANE—GIBSON.—On Nov. 21st, at St. Thomas's Church, Gonda, Oudh, William Deane, Surgeon I.M.S., to Constance Maynard, eldest daughter of H. W. Gibson, Esq., Deputy Comr. of Gonda.

KEEPER—WILKS.—On Dec. 31st, at the residence of the bride's father, Surgeon-Major William Napier Keeper, H.M. Bengal Army, to Alice Eugenia, second daughter of Matthew Wilks, Esq., of Cruickston Park, near Galt, Canada, and of New York City.

LAYNG—RUST.—On Nov. 12th, at the Cathedral, Hong Kong, Henry Layng, M.R.C.S. Eng., L.R.C.P. Lond., Swatow, China, eldest son of the late Rev. H. Layng, M.A., Foulden Vicarage, Norfolk, to Ada Louise, youngest daughter of W. M. Rust, Esq., Wisbech, Cambridgeshire.

LITTLE—KNIGHT.—On Jan. 11th, at the Church of St. John the Baptist Holland-road, W., Ernest Muirhead Little, F.R.C.S., Park-street, W., youngest son of J. W. Little, M.D., of Ryarsh, Kent, to Mary, daughter of John Burgess Knight, Holland-park, W.

MACALISTER—CARTER.—At Prince's-gate Baptist Chapel, Liverpool, by the Revs. Robert Lewis and D. P. McPherson, B.D., Charles J. Macalister, M.B., C.M., of Liverpool, to Anna Frances Sandwith Carter, elder daughter of William Carter, M.D., also of Liverpool.

MACTAGGART—BEATSON.—On Dec. 20th, at the Cathedral, Calcutta, Charles Mactaggart, M.A., M.B., C.M., Indian Army Medical Service, to Mary McKenzie, second daughter of G. Bosville Macdonald Beatson, Glasgow, Scotland.

RICHARDS—HOCKIN.—On Jan. 2nd, at the Parish Church, St. Columb Minor, William Richards, Surgeon-Dentist, of St. Austell, to Mary Evelyn, only surviving daughter of the late Nicholas Hockin, of Primrose House, Newquay, Cornwall.

WRIGHT—GARLAND.—On Jan. 8th, at St. Matthias Church, Earl's-court-square, Henry Wright, M.R.C.S., to Evelyn Maud, second daughter of Capt. A. Garland, of Braziers, and The Vale, Checkendon, Oxon.

DEATHS.

BAYLIFFE.—On Jan. 8th, at Bournemouth, Alworth Merewether Bayliffe, M.R.C.S., L.S.A., late of Brent Knoll, Somerset, aged 45.

DAVIES.—On Jan. 8th, at Meerut, India, Brigade Surgeon R. W. Davies, A.M.S., aged 48.

DAWSON.—On Jan. 13th, George Herbert Dawson, M.R.C.S., L.R.C.P. late of Moor Allerton, aged 31.

DUSTAN.—On Jan. 12th, at his residence, Oakhands, St. Saviour's, Jersey, John Dustan, M.R.C.S., Brigade Surgeon R. P., aged 51.

HOMFRAY.—On Jan. 9th, at 16, Arlington Villas, Clifton, Charles Augustus Homfray, M.R.C.S., J.P. co. Somerset, aged 57.

MCGRATH.—On Jan. 14th, 1890, suddenly, at St. Thomas's Hospital, London, Terence John McGrath, L.K.Q.C.P., L.R.C.S. Irel., of Regent-street, Lambeth, S.E.

MOORE.—On Jan. 8th, to the inexpressible grief of his family and friends, George Moore, M.D., Hertford-street, Mayfair, W., aged 56.

MOYSE.—On Jan. 3rd, at Arden, Torquay, John Edwin Moyse, F.R.C.S.

PERCIVAL.—On Jan. 8th, at Beauclerc, Upper Norwood, Charles Jones Percival, M.D., aged 76.

SHARMAN.—On Jan. 6th, at Gipsy-road, West Norwood, John Sharman, M.R.C.S. Eng., L.S.A. Lond., aged 56.

STORMONT.—On Jan. 9th, at West Kensington, Henry Joseph Stormont, M.R.C.S., L.M., L.S.A. (Guy's), in his 60th year, of pneumonia.

TUPHOLME.—On Jan. 9th, John Thompson Tupholme, M.R.C.S., M.R.C.P. Edin., of Westgate-terrace, South Kensington, aged 31.

WALLER.—On Jan. 14th, suddenly, at 14, Gibson-square, N., Arthur Waller, M.R.C.S., M.S.A., B.A., B.Sc., second son of the late Charles Waller, M.D., of Finsbury-square, aged 45. R.I.P.

N.B.—A fee of 1s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, January 20.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

LONDON POST-GRADUATE COURSE (Royal London Ophthalmic Hospital, Moorfields).—1 P.M. Mr. Marcus Gunn: External Diseases of the Eye.

LONDON POST-GRADUATE COURSE (Hospital for Sick Children, Great Ormond-street, Bloomsbury).—4 P.M. Mr. Edmund Owen: The Early Recognition and Treatment of Spinal Disease.

SOCIETY OF ARTS.—8 P.M. Mr. Silvanus P. Thompson: The Electro-magnet. (Cantor Lecture.)

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Edmund Owen: Selected Subjects in connexion with the Surgery of Childhood. (Lettsomian Lecture.)

Tuesday, January 21.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Prof. G. J. Romanes: The Post-Darwinian Period.

LONDON POST-GRADUATE COURSE (Hospital for Diseases of the Skin, Blackfriars).—4 P.M. Mr. Jonathan Hutchinson: Eczema and its Varieties.

SOCIETY OF ARTS.—5 P.M. Mr. John Loudoun Shand: Tea, Coffee, and Cocoa Industries of Ceylon.

PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. James Berry: Thirty-three Specimens illustrating Diseases of the Thyroid Gland, together with a collection of Photographs and Casts.—Dr. Samuel West: Case of Suppurative Peritonitis with Pus in the Portal Vein.—Dr. Delépine: Sable Intestinal.—Mr. Lockwood: Retro-peritoneal Hernia.—Mr. D'Arcy Power: (1) Ruptured Spleen; (2) Repair of Kidney after Rupture.—Mr. Solly: Myxofibroma of Pelvis. Card Specimen:—Mr. Bidwell: Polypus from Trachea of Dog.

Wednesday, January 22.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE (Hospital for Consumption and Diseases of the Chest, Brompton).—4 P.M. Dr. Theodore Williams: The Diagnosis of Tubercular Infection.

HUNTERIAN SOCIETY.—8 P.M. Clinical Evening.

LONDON POST-GRADUATE COURSE (Royal London Ophthalmic Hospital, Moorfields).—8 P.M. Mr. Quarry Silcock: Ophthalmoscopic Cases.

SOCIETY OF ARTS.—8 P.M. Mr. R. Brudenell Carter: Vision-testing for Practical Purposes.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Mr. Bowreman Jessett: The Surgical Treatment of Uterine Cancer. President's Inaugural Address.

Thursday, January 23.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

LONDON POST-GRADUATE COURSE (Hospital for the Paralysed and the Epileptic, Queen-square, Bloomsbury).—2 P.M. Dr. Beevor: The Anatomy of the Brain with reference to Localisation.

ROYAL INSTITUTION.—3 P.M. Mr. E. R. Mullins: Sculpture in relation to the Age.

LONDON POST-GRADUATE COURSE (Hospital for Sick Children, Great Ormond-street, Bloomsbury).—4 P.M. Mr. Edmund Owen: The Later Stages of Spinal Disease.

Friday, January 24.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

LONDON POST-GRADUATE COURSE (Hospital for Consumption and Diseases of the Chest, Brompton).—4 P.M. Dr. Theodore Williams: The Diagnosis of Pulmonary Fibrosis.

CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. G. Buckstone Browne: Two rare cases of Sacculated Vesical Calculi in the Male successfully removed by Supra-pubic Cystotomy.—Mr. Twynam (of Sydney): Case of Calculus impacted in the Ureter.—Mr. Lockwood: Case of Excision or Erasion of Hip-joint through Anterior Incision and Permanent Closure of the Wound.—Mr. Butlin: Two cases of Glandular Tumour of the Tongue.

ROYAL INSTITUTION.—9 P.M. Prof. Dewar: The Scientific Work of Joule.

Saturday, January 25

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE (Hospital for Diseases of the Skin, Blackfriars).—2 P.M. Dr. Payne: The Diseases known by the name of Lichen.

ROYAL INSTITUTION.—3 P.M. Prof. Flower: The Natural History of the Horse, and of its Extinct and Existing Allies.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, January 16th, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Jan. 10	30·00	W.	45	44	74	52	40	·15	Cloudy
,, 11	30·23	W.	43	41	..	54	41	..	Overcast
,, 12	30·16	W.	50	46	74	53	43	..	Bright
,, 13	30·13	W.	48	47	60	54	40	..	Overcast
,, 14	30·22	S.W.	40	40	..	52	40	·03	Foggy
,, 15	30·13	S.W.	49	48	..	52	40	..	Overcast
,, 16	30·15	S.W.	49	48	..	52	47	—	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

RABIES CANINA.

G. R.—The silence of the mad dog was in ancient times regarded as pathognomonic of its disease. Paulus Ægineta, v. 3, says it not only does not bark (χωρὶς ὑλαγμοῦ), but is absolutely voiceless (ἄφωνος). Six centuries before that writer this sign of madness in the dog was referred to by Persius (Sat. III., 81) as already proverbial—"rabiosa silentia."

Enquirer.—The Dee Oil Company, Leadenhall-street, we believe, supplies the preparation.

MEASLES AS A NOTIFIABLE DISEASE.

To the Editors of THE LANCET.

SIRS,—The Compulsory Notification Act is now being largely adopted by the different sanitary authorities, but many of them omit measles from their list of notifiable diseases. In my experience parents are often anxious to have the fever their children are suffering from called measles, and amongst the poor scarlet fever is generally called measles until the doctor gives it its right name, and in many cases no doctor is ever called in. Here, then, is a good loophole through which they can, and I feel sure will, escape from the law.

Trusting you will give your opinion on this important subject in your next issue, Believe me, Sirs, truly yours,

Jan. 14th, 1890. W. P.

*** The point raised by our correspondent, speaking from experience, is important, and constitutes an argument for including measles in the list of notifiable diseases. We have already pointed out the omission.—ED. L

THE INDIAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—The annotation headed "Indian Medical Service," which appeared in the number of THE LANCET for Nov. 30th last, does not, it appears to me, fully represent the position. The order referred to, as you correctly state, requires that "a medical officer in civil employ must accept his promotion when it comes to his turn, or as the only alternative he must resign the service." The objections to such an order, from the officers' point of view, are as follows:—1. Ever since the existence of the service no such order has been enforced. Medical officers were at liberty to refuse or accept promotion as it suited them. 2. Officers entered the service under that impression, and believed, and were led to believe, that if they chose to devote themselves to civil work they would be permitted to do so. 3. They entered the service under the provisions of a Queen's Warrant, which granted them the privilege of serving until they reached the age of fifty-five years. This warrant can only be set aside by the sanction of the Queen, conveyed through the Secretary of State for India. The order, as issued, does not bear any evidence of having received such authority. 4. An officer refusing promotion must retire, whether he is fifty-five years of age or under. If he is under fifty-five years of age, he must in fairness receive the pension he would be entitled to if he had served till he was fifty-five years of age. 5. The Government has undoubtedly the right to the services of its officers, within constitutional limits, under any and every circumstance. The officers fully acknowledge this right, and gladly give up their positions in case of war or of necessity; but the officers have also their rights, and in this instance these rights have been arbitrarily ignored without the existence of necessity. The invariable rule hitherto in force—viz., that an officer was allowed to refuse promotion if it suited him—has become a right, and the Government should have recognised this by making the order apply only to those officers who are promoted in future to the rank of brigade-surgeon, and not to those already in that rank. 6. There was absolutely no necessity for the issue of the order. It will necessarily by its action retard promotion, and will undoubtedly tend to make good men who are now satisfied with their position discontented, and force them to retire disappointed and dissatisfied with their career.—I am, Sirs, yours faithfully,

Dec. 23rd, 1889. I. M. S.

*** We gladly publish our correspondent's letter. The power and right of the Government to provide for public service requirements are undoubted; but we clearly pointed out the grave injury that was inflicted on individuals by the sudden and arbitrary incidence of a ruling opposed to precedent and previous practice. If the rule followed hitherto has been invariable, it no doubt goes a long way to establish a right, which should only be set aside or ignored on sufficient grounds and after due consideration by adequate authority. Where an order sets aside an established practice, the obviously fair course is to make it applicable to future promotions, and not to those already in the rank.—ED. L.

F. P. Haviland, M.B.—Hay fever is remarkably prevalent in the United States, where it has been much studied. But whereas over the Old World it seems to occur mostly in the spring and early summer, in America it is far more of an autumnal affection, as pointed out by Dr. Wyman of Cambridge, Mass.

Mr. J. S. Trotter.—The name of the writer of the letter was sufficient evidence of good faith. In the Proc. Chem. Soc., Feb. 17th, 1887, further information upon the chemical composition of the drug will be found.

C.—Our correspondent will probably find all the information he requires as regards the Colonies in the Colonial Office List, and as regards India in the India List.

E. W.—Styrap's "Medical Ethics" may be consulted.

THE MOON FUND.

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the accompanying list of subscriptions to the above fund in your next issue, and oblige

Yours truly,

PETER HORROCKS, M.D.,
Hon. Treasurer.

26, St. Thomas's-street, S.E., Jan. 15th, 1890.

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Mr. Albert J. Weber.—Our space will not allow of our giving the particulars asked for by our correspondent, but we may refer him for a full account of the preparations, properties, &c., of antifebrin to the Year-books of Pharmacy for 1887, 1888, and 1889.

Mr. H. Wickham.—It all depends upon the fact as to who requested the certificate. The usual practice is for friends to obtain a certificate, and supply it free of cost to the office.

WHAT IS THE MEANING OF "NATURAL CAUSES"?

To the Editors of THE LANCET.

SIRS,—Last week an inquiry was held by the coroner for this district into the cause of death of a child two years of age, who had been found dead in bed under peculiar circumstances. The following particulars were given me by the parents on the day following, when I went to see the body. The child, a fine, healthy-looking boy, was put to bed in apparently good health on Sunday night. He and a younger brother slept in the same bed in a room adjoining that of the parents. Previously to retiring for the night (11 P.M.), the father, as was his usual custom, went in to see that the little fellows were all right, but only saw the younger boy. On pulling the bedclothes down, the elder boy was found lying on his face, with his hands above his head, and, as they thought, asleep Remarking, however, that his hands and arms were unusually white, they turned him over, and then discovered that he was dead. The weather being cold, a large hot bottle had been put in the bed with them, and I expect the little fellow had slipped down in bed to get near the heat, the heavy bedclothes fell over him, and he was smothered. Medical evidence was not called at the inquest, and I am told that a verdict of "Death from natural causes" was returned.

It would, I think, be advisable to furnish juries with clear definitions of the terms "natural causes," "misadventure," "visitation of God," &c., of the meaning of which they seem, in country places generally, to have a very vague idea. Information such as I refer to might also in some cases prove serviceable to the coroner himself.

I am, Sirs, yours truly,

Slaidburn, Jan. 1890. GEORGE H. ORMSBY, M.K.Q.C.P.I., &c.

REMUNERATION OF MEDICAL OFFICERS OF HEALTH.

To the Editors of THE LANCET.

SIRS,—As a medical officer of health allow me to thank you for your kind expressions regarding them as a body. As one of the "underpaid" let me thank you still more strongly for your apposite remarks pertaining thereto. No officer is fonder of his sanitary work than I am; but it is impossible for me to do all I want to, simply because I cannot. I hold three districts, two rural and one urban. My area extends over 175 square miles. I am debarred from private practice, my entire salary is £237 per annum, and I have to pay all my travelling expenses during the year out of this stipend, and I have no private income. I do my best, but how is it possible for any man to do his duty under such circumstances? Someone ought to see to it.

I am, Sirs, yours faithfully,

Jan. 7th, 1890. ONE WHO HOPES FOR BETTER THINGS.

T. W. Christie, M.R.C.S., B.A.—Certainly, there was an epidemic in 1830, and another in 1833, whilst several are recorded in the eighteenth century and prior to that. We did not intend to imply that the epidemic of 1837 was the first to have invaded Great Britain.

Perplexed.—We sympathise with B. But we cannot see that he can do more. He has doubly discharged his duty. The responsibility rests with A. B is neither required nor entitled to use professional secrets in a social way.

INCONTINENCE OF URINE.

To the Editors of THE LANCET.

SIRS,—I should be glad if any of your correspondents could furnish me with a remedy for a most obstinate case of incontinence of urine in a little girl aged seven years. The child, although growing very fast, with a soft muscle, flaccidity of skin, and a pale, delicate facial exterior, is otherwise healthy, the possessor of a capital appetite, of a sound digestion, together with a mercurial flow of animal spirits. The usual remedies have been tried, but without success. Even penal discipline has been inaugurated by the mother and the nurse with no good result, the inability to resist the desire for micturition still persisting.

I am, Sirs, yours faithfully,

Upper Norwood, Jan. 6th, 1890. T. S. G.

THE MASON DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—In addition to the subscriptions already received and published in THE LANCET of Jan. 4th, amounting to £13 2*s.* 6*d.*, would you kindly add the following? A Member of the Colchester Medical Society, £1 1*s.*; Thos. Taylor, Esq. (Braintree), £1 1*s.*; L. Nicholls, Esq. (Bury St. Edmunds), 5*s.*; Mr. Balaam (Kedington, Suffolk), 5*s.* Total amount, £15 14*s.* 6*d.* I am, Sirs, yours faithfully,

GEORGE BROWN, M.D.,
Hon. Sec., Colchester Medical Society.

Headgate, Colchester, Jan. 15th, 1890.

Venator.—We have already expressed our opinion of the admirable character of the article by the late Dr. Parkes in Reynolds' System of Medicine (see THE LANCET, Dec. 21st, 1889, p. 1294), which is one of the most complete studies of influenza in our language.

Mr. R. W. Green had better submit his question to a medical bookseller.

S. L.—We must refer our correspondent to our advertising columns.

Æ.—The paper will be published in an early number.

ERRATUM.—In the list of New Year's honours for medical men, given in our retrospect on Dec. 28th last, the name Thos. Inglis Rowell was erroneously printed in place of Thomas Irvine Rowell, M.D.

PROFESSIONAL AMENITIES.

F.R.C.S.—A charge is not to be made hastily. Time is to be given for both parties to realise what is reasonable on their respective sides, and what is consistent with the spirit of the tradition that *gives* every man the advantage of the advice of the best men in his own profession. This is sometimes abused, as our correspondence shows. But there should be no haste in any given case to assume that it is going to be so.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Buzzard, London; Dr. Maclagan, London; Dr. Richardson, London; Sir W. Mac Cormac, London; Dr. Harkin, Belfast; Dr. Atkinson; Mr. A. Manners, Manchester; Dr. Coombs, Bedford; Dr. G. Brown, Headgate; Mr. Mercier, London; Mr. E. Thomas, London; Dr. C. Read, London; Dr. Bays, London; Dr. W. Powell, London; Dr. Jecks, London; Dr. G. P. Lewis, Folkestone; Mr. Christie, Liverpool; Mr. W. Evans, Llanerchymedd; Mr. H. P. Hawkins, London; Mr. R. Mitchell, Oakfield; Mr. J. Philipson, Newcastle-on-Tyne; Mr. J. Malcolm, Birmingham; Mr. Haviland, Douglas; Dr. Rouvier, Beyrout; Dr. Hugh Woods, Highgate; Mr. N. Fraser, Glasgow; Messrs. Stilwell and Co., Melbourne; Mr. Cheshire, Birmingham; Mr. Rothamley, South Hackney; Mr. Jones, Newport; Dr. Bolton, Kustendjie; Herr Gustav Fischer, Jena; Dr. Jeaffreson, Newcastle-on-Tyne; Mr. Clarke, South Africa; Mr. Senn, London; Dr. Davey, Ryde; Mr. A. J. Weber, New York; Surgeon-Major Lawrie, Hyderabad; Messrs. Haasenstein and Vogler, Berlin; Dr. Colman, London; Dr. Campbell, Carlisle; Dr. R. Jones, Earlswood; Mr. R. Turner, Greenwich; Dr. Tomkins, Bradford; Mr. Faulkner, London; Dr. Railton, Manchester; Mr. Leet, Bootle; Mons. Cardinet, Paris; Mr. Phillips, Salford; Mr. Malcolm, London; Mr. C. H. Heaton, Connecticut; Mr. Norman, Ireland; Mrs. Haynes, London; Mr. Heaton, Bedford-park; Mr. Lacey, Portsmouth; Mr. Tyte, Minchinhampton; Mr. Shaw, London; Mr. Brooks, Paddington; Mr. Smyth, Hoddesdon; Dr. Lewers, London; Dr. Roos, Amsterdam; Dr. Coghill, Birmingham; Prof. Gower; Mr. Goodson, Stratford; Dr. Smith, Cheltenham; Dr. Brickett; Madam Wood, London; Signor Pacchiotti, Turin; Dr. Sisley, Ramsgate; Mr. Alban Doran, London; Dr. Sumpter, Cley-next-the-Sea; Dr. Ephraim Cutter, New York; Dr. F. P. Haviland, St. Leonards; Dr. Bezly Thorne, London; Mr. M. Fox, Coleshill; Mr. Page, London; Mr. W. Jones, Liverpool; Dr. W. Duncan, London; Mr. F. A. Southam, Manchester; Dr. Sisley, London; Dr. S. Stephenson, Hanwell; Mr. C. Beesley, Newhaven; Mr. Quilter, London; Mr. Calvert, Beverley; Dr. Ashby, Reading; Mr. O'Callaghan, Carlow; Messrs. Blondeau and Co., London; Mr. Frost, London; Messrs. Crosby, Lockwood, and Co., London; Mr. Branthwaite, Worcestershire; Messrs. Wyleys and Co., Coventry; Mr. Bowlan, Newcastle-on-Tyne; Messrs. Hooper and Batty, London; Messrs. Maclehose, Glasgow; Dr. T. B. Beach, London; Mr. Blair, Leeds; Mr. Salmon, London; Messrs. Leader and Sons, Sheffield; Mr. Anderson, Carmarthen; Messrs. Eason and Son, Dublin; Mr. Street, Lancashire; Mrs. Heynes; Messrs. J. and R. Morley, London; Mr. Donaldson, London; Mr. Bennett, Liverpool; Mr. Toller, Barnstaple; Dr. Skrimshire, Holt; Mr. Kershaw, London; Mr. Cooke, Beverley; Mr. Notley, Birmingham; Dr. Lloyd Tuckey, London; Dr. T. I. Rowell, St. Albans; Mr. Terry; Mr. St. Clair Buxton, London; Surgeon-General Marston, London; Mr. Richmond Leigh; Mr. Springthorpe, Melbourne; Mr. Sheward; Mr. Havelock Ellis; Dr. Russell Reynolds, London; Dr. Turner, London; Dr. Mott, London; Prof. Odiardi, Jersey; Dr. Marsh, Birmingham; Mr. Croft, London; Mr. Wickham, Ormskirk; Dr. Reid, Leeds; Messrs. Smith and Son, Birmingham; Dr. Fitzgerald, Folkestone; Messrs. Burgoyne and Co., London; Mr. H. P. Hawkins, London; Messrs. Smith and Son, London; Messrs. Anderson, London; Mr. Shirtliff, Kingston-on-Thames; Dr. Finch, Salisbury; Mr. Little, London; Mrs. Pitman, Worthing; Mr. Chadwick, Liverpool; Mr. Stable, London; Mr. Stuart, London; Mr. Hornibrook, London; Dr. F. Semon, London; Dr. Tripe, London; Scrutator, London; Royal Portsmouth Hospital; M. M. M.; I. M. S.; N. I., Honiton; Seafordian; X. Y. Z., London; La France Médicale, Paris; T. W. F., Liverpool; Morgannwg, London; Zenana Medical College, London; M.D., Hammersmith; Secretary, Mercer's Hospital, Dublin; M., London; Oxford, London; Jeyes' Sanitary Co., London; Medicus; F.R.C.S.; M. H., Birmingham; Manchester Medical Agency; W. P.; General Infirmary, Worcester; Euonymised Cocoa Co., Birmingham; R. W.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Blurton, Bristol; Miss Graham, Ealing; Mr. Blackledge, Chorley; Messrs. Van Houten and Zoon, Weesp; Mr. Allan, Grimsby; Dr. Johnstone, Fence Houses; Mr. Paton, Ilkeston; Mr. Bigg, London; Mr. Foley, South Wales; Mr. Kemp, Castleford; Mr. Walters, Bath; Messrs. Dugdale Bros., Burnley; Mr. Fawsett, Tamworth; Dr. Mason; Messrs. Bryant and Co., Canada; Mr. Dunlop, Southampton; Messrs. Maw, Son, and Thompson, London; Mr. Taylor, Norwich; Mr. Churchill, Walton-on-the-Hill; Mr. Ellis, Singapore; Dr. Lawson, London; Dr. Constable, Plaistow; Mr. Tully, Hastings; Dr. Elliott, Ontario; Mr. Chubb, Devonport; Mr. Clegg, Windermere; Dr. Hogg, Worksop; Mr. Beal, Brighton; Dr. Fehrsen, St. Neots; Mr. Joyce, Ireland; Mr. Ingham, Lancashire; Mr. Ungent, Wells; Dr. Donovan, Cork; Mr. Clements, Pontypool; Mr. Lockhart, Dunstable; Mr. Davis, London; Dr. Parry Jones, Wrexham; Dr. Harling, Richmond, Yorks; Messrs. Bradford and Co., Salford; Mr. Courtney, London; Mr. Griffith, Cumberland; Dr. Carter, Southport; Mr. Oliphant, Leicester; Mr. Hensley, Ringwood; Mrs. Levick, Paris; Mr. Eskmugge, Royston; Dr. McClure, Cromer; Mr. Donohue, Kent; Mr. McMordie, Belfast; Mr. Bullivant, Notts; Mr. McLay, Ayrshire; Mr. Woodd, Tavistock; Dr. Windle, Halifax; Mr. Brockelbank, London; Mr. Ayres, Liverpool; Mr. Arkell, Portsmouth; Mr. Rawcliffe, Burnley; Messrs. Margrave, Llanelly; Mr. Wallace, Glasgow; Mr. Waller, London; Mr. Brooks, Shropshire; Mr. Jennings, Coleford; Mr. Atkinson, Ripponden; Mr. Gunn, London; Mr. Coathorpe, Bristol; Mr. Wells, London; Mr. Ballard, Bournemouth; Mr. Rickett, Lincolnshire; Messrs. McLachlan and Stewart, Edinburgh; Mr. O'Shera, Harrogate; Drs. Andrews and Fraser, Brixton; Dr. Saunders, Ripley, Yorks; Messrs. Baines and Son, Leeds; Dr. Smyth, Herts; Mr. Baron, Rugby; Dr. Adam, West Malling; Mr. Macalister, Liverpool; Mr. Burt, Dorset; Capt. Pend, Dulwich; Dr. Watson, Ludlow; Mr. Heywood, Manchester; A. B. C.; F. S., Cardiff; M.D., London; S. B. M., London; Derby Borough Asylum; M.B., London; Medicus, London; Baskerville Printing Co., Liverpool; Sinus, London; Camborne, London; York Home for Nurses; A. G., Southampton; W., London; Sigma, Tamworth; The Sanitas Co., Bethnal-green; F. J. B., London; Dr. C. B. M., South Wales; J. W. D., London; T. W. M., Teignmouth; Cheltenham General Hospital; A., Dublin; Medicus, Bournemouth; Hackney Furnishing Co., London; H. J. F., London; Myopia, Leeds; South-Western, London; Surgeon Y., Manchester; C. L. T., London; Nurse Lucy, Coldstream; W. P. S., London; Jacobus, London; Boot's Pure Drug Co., Nottingham; Sobraon, London; Canada, London; Chester General Infirmary; Veritas, London; Osiris, London; Medicus, Margate; Medicus, Liverpool; H., London; R. C., London; Pleyell London; Cyril, London; Calpe, London; R. M. F., London.

Fife Herald, Kilkenny Journal, Weekly Free Press and Aberdeen Herald, Brighton Standard, Surrey Advertiser, Dublin Evening Mail, Devizes and Wilts Advertiser, Hertfordshire Mercury, Spectator, Folkestone Express, Farmer's Review, Reading Mercury, Kent Herald, Waterford Citizen, Alnwick and County Gazette, Manchester Examiner, Evening Reporter, Ulster Gazette, Pulsen's Kent Argus, School Board Chronicle, Australian Advertiser (Albany), Huddersfield Examiner, Hackney and Kingsland Gazette, Beverley Recorder, Glasgow Herald, Belfast and Newry Standard, Barry and Cadoxton Journal, Louth and North Lincolnshire Advertiser, Evening Citizen (Glasgow), Finance Chronicle, John O'Groat Journal, Derby Daily Telegraph, &c., have been received.

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